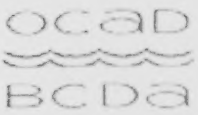
OFFICE OF THE COMMISSIONER FOR AQUACULTURE DEVELOPMENT



"TOWARD AN APPROPRIATE FEDERAL ROLE IN AQUACULTURE"

Results of the MARITIMES Stakeholder Workshops

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Office of the Commissioner for Aquaculture Development

Canada

TOWARD AN APPROPRIATE FEDERAL ROLE IN AQUACULTURE
OFFICE OF THE COMMISSIONER FOR AQUACULTURE DEVELOPMENT
Report on the Stakeholder Workshops
Maritimes - August 28 & 29, 2002

The Office of the Commissioner for Aquaculture Development (OCAD) has been directed by the Minister of Fisheries and Oceans to focus efforts upon measures that will lead to full implementation of the 1995 Federal Aquaculture Development Strategy. A key component of this mandate is the creation of a consolidated long-term strategic vision for aquaculture development in Canada and defining a renewed federal role to implement this vision.

Within this context, OCAD organized eleven regional workshops with industry, government and other stakeholders to solicit the views of those groups most directly involved with aquaculture development in Canada. In each region (excepting the Prairie meeting[1]), sessions were organized separately with (1) industry and other stakeholders and (2) government representatives. As a result of this exercise, perspectives on the fundamental elements for successful development of the aquaculture sector in Canada have been compiled, including identification of those groups responsible for delivering each of the fundamental elements. An **element** is defined as a high-level component of the vision that, ultimately, will require strategic focus for further implementation.

At each workshop, an identical process was followed, as outlined below:

- Presentation of background information pertaining to OCAD's mandate
- Consideration of the "Vision Question"
- Brainstorming
- Identification of fundamental elements
- Prioritization exercises
  - Gap Analysis
  - Relational Analysis
  - Resource Allocation

The "Vision Question"

It is 2017 and Canada has grown to realize its potential in aquaculture, a locus of investment that is well-regarded as an environmentally sustainable source of wholesome seafood that provides employment for coastal and rural communities and economic benefits to the Canadian economy in a business climate that is free of public criticism. How did we get to this point?

This report provides interim results from the Maritimes regional workshops, held on August 28 and 29, 2002. Annex III includes the list of participants to the workshop, and annex I and II provide a transcription of the elements identified in these sessions. These results reflect the views and opinions of the individuals who participated in the sessions; however, they do not necessarily reflect the perspective of any organizations or associations to which these individuals belong. An analysis of the overall exercise will be available shortly through OCAD's website: http://ocad-bcda.gc.ca

[1] The Prairie workshop consisted of one session between aquaculture industry representatives, other stakeholders and the federal and provincial government representatives.

PRELIMINARY FINDINGS

1. IDENTIFICATION OF ELEMENTS & GAP ANALYSIS

Eleven (11) elements were identified in the Industry and other stakeholders' workshop while government representatives identified nine (9) elements. These elements, and their definition, are presented in Tables 1 and 2. For each element, a score is presented to reflect the collective view of the workshop delegates with respect to the current level of progress in relation to its full implementation. The percentage scores reflect the following scale: 0% - No Implementation; 25% - Falling Behind with Implementation; 50% - Neither Gaining nor Falling Behind; 75% - Moving Forward with Implementation; 100% - Full Implementation.

Table 1: Elements & Gap Analysis - Industry & Other Stakeholders

Marketing 49%	• Meeting consumer demands and expectations re quality and safety
Food Safety / Quality 60%	• Harmonized approach to ensure safe and effective aquaculture products • Effective third party programs for quality assurance.
R&D / Innovation 46%	• A planned and funded approach to R&D / innovation in support of industry productivity and maintaining natural biodiversity.
Environmental Sustainability 60%	• Initiatives aimed at ensuring that aquaculture is environmentally sustainable.
Policy / Regulations 32%	• An appropriate and equitable policy & regulatory framework for industry and other stakeholders and environmental sustainability developed and implemented in an open and transparent process. • Delineation of developmental and regulatory functions. • Clarification of public and private rights • Delineation of federal / provincial roles.

Table 2: Elements & Gap Analysis – Governments

Marketing 45%	• Initiatives aimed to enhance consumer and investor confidence. • Industry and government support.
Food Safety 57%	• Industry HACCP program. • Depuration facilities. • Managing biotoxin species by species.
R&D 65%	• Planned, coordinated and cooperative approach to aquaculture R&D in support of present and future competitiveness, productivity and environmental sustainability.
Environmental Sustainability 61%	• Involvement of all stakeholders in the elaboration of codes / standards including proper monitoring and enforcement. • Established an ICZM plan.
Regulation / Policy / Planning 52%	• Harmonizing and coordinating regulations to facilitate industry growth especially for shellfish industry. • Separation of fisheries regulations and aquaculture regulations.

Training & Education / Communications 29%	• Initiatives aimed at enhancing the skill level of aquaculture, support industry, public sector workers and infrastructure for aquaculture, particularly in the rural coastal areas. • Effective federal, provincial and industry funding. • Communication programs for enhanced public awareness.
Productivity & Fish Health 49%	• Initiatives aimed at increasing aquaculture productivity and fish health management.
Industry Associations 70%	• Effective and financially stable industry associa41%tions with full representation of the industry.
Investment 42%	• Enhanced access to investment and working capital and reduced financial risks.
Trade 32%	• Security of access to international markets. • Coordinated system for market and trade data.
Community Interactions 45%	• Planned, balanced and inclusive community approach to rural economic and social development.

Education and Communications 50%	• Coordinated partnership approach to information management. • Enhanced public awareness re aquaculture. • Technology training for industry.
Animal Health 32%	• Functional National Aquatic Animal Health Program (NAAHP)
Industry Development Programs 47%	• Support for First Nations involvement in aquaculture. • Enhanced infrastructure. • Safety net programs. • Financial support programs. • Development programs targeted toward increasing technology, infrastructure & investment in aquaculture.
Government Structure 41%	• Harmonized approach including delineation of federal / provincial roles. • Structured and fully resourced team-based management with performance evaluation. • Delineation of developmental and regulatory roles. • Re-define DFO's name to reflect proper visibility to aquaculture.

2. RELATIONAL ANALYSIS (Drivers & Dependents).

This exercise served to define a cause-and-effect relationship between strategic elements. "Drivers" are those elements which, if implemented, will have an effect upon the implementation of other "dependent" elements. A very high score means that the element is a driver (DR), while a very low score means that it is dependent (DP). This does not mean that a dependent element is not important. It does, however, suggest that if two elements are identified as having a similar priority, it would be wise to consider the

leveraged influence of the driver on other elements. Tables 3 and 4 present the results from the relational analysis exercise.

Table 3: Relational Analysis - Industry & Other Stakeholders

ELEMENT	RANK
R&D / Innovation	2 DP
Investment	11 DR
Policy / Regulations	6
Industry Associations	5
Environmental Sustainability	10 DR
Productivity and Fish Health	7
Food Safety / Quality	1 DP
Training & Educ. / Communic.	8
Trade	4
Marketing	3 DP
Community Interactions	9 DR

Table 4: Relational Analysis – Governments

ELEMENT	RANK
Environmental Sustainability	2 DP
R&D	8 DR
Regs. / Policy / Planning	9 DR
Industry Devel. Programs	4
Government Structure	7 DR
Marketing	1 DP
Animal Health	5
Food Safety	3 DP
Education & Communications	6

3. RESOURCE ALLOCATION

In the resource allocation exercise, each delegate was provided with approximately 50% more resources than the number of elements. For example, if 10 elements were identified, each delegate was provided with 15 resources. The resources represented public sector resources including tax dollars, civil servants and time. Delegates were asked to allocate their resources to those elements that they deemed to be most requiring attention. All of the resources could be allocated to a single element or they could be spread among several or all elements. Results, expressed as a percentage of the total number of resources allocated for each element, are presented in Tables 5 and 6.

Table 5: Prioritization – Industry & Other Stakeholders

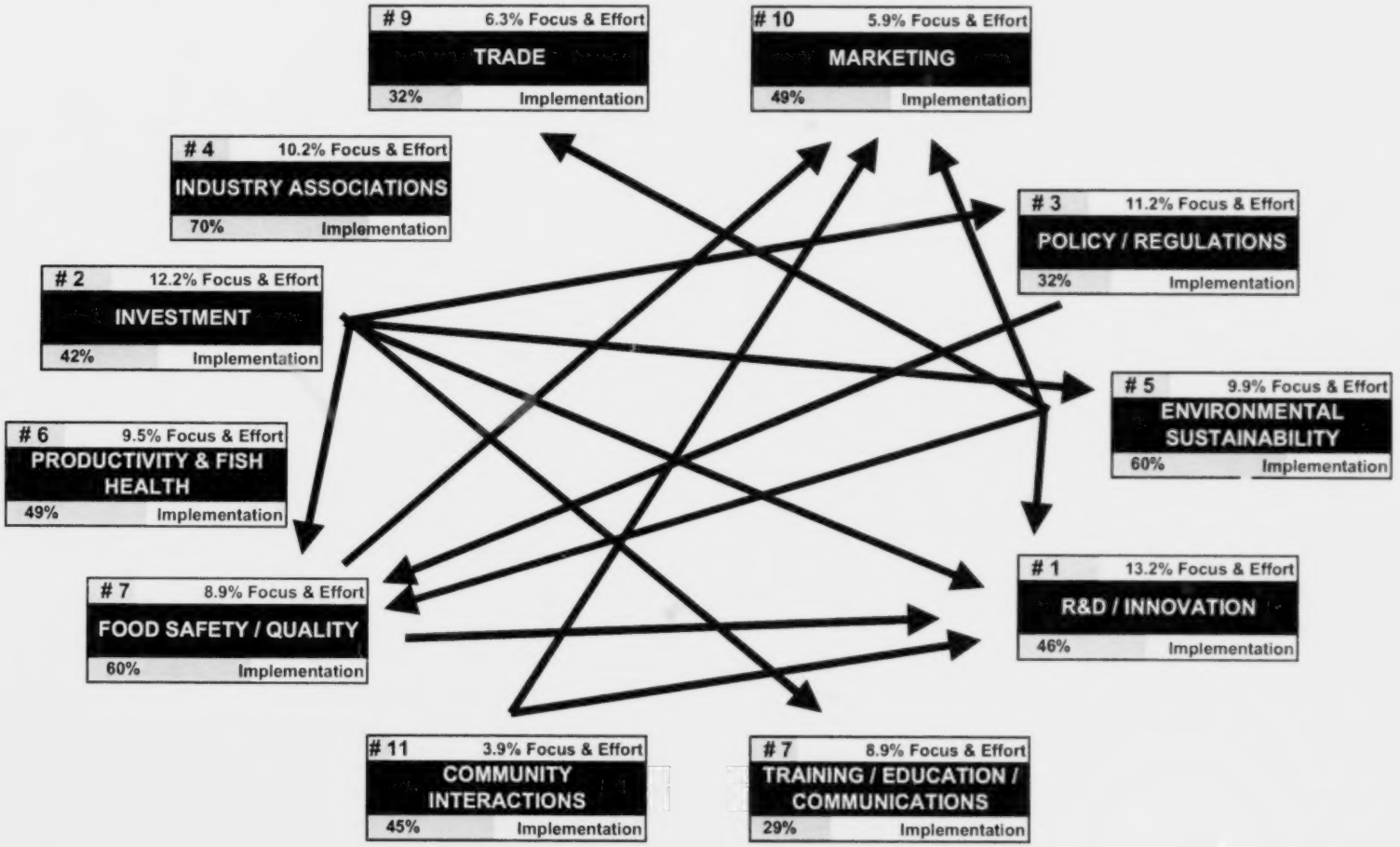
ELEMENT	SCORE
1. R&D / Innovation	13 %
2. Investment	12 %
3. Policy / Regulations	11 %
4. Industry Associations	10 %
5. Environmental Sustainab.	10 %
6. Productivity and Fish Health	10 %
7. Food Safety / Quality	9 %
8. Train. & Educ. / Communic.	9 %
9. Trade	6 %
10. Marketing	6 %
11. Community Interactions	4 %
TOTAL	100%

Table 6: Prioritization - Governments

ELEMENT	SCORE
1. Environmental Sustainab.	18 %
2. R&D	16 %
3. Regs. / Policy / Planning	13 %
4. Industry Devel. Programs	13 %
5. Government Structure	11 %
6. Marketing	9 %
7. Animal Health	7 %
8. Food Safety	7 %
9. Education & Communic.	6 %
TOTAL	100%

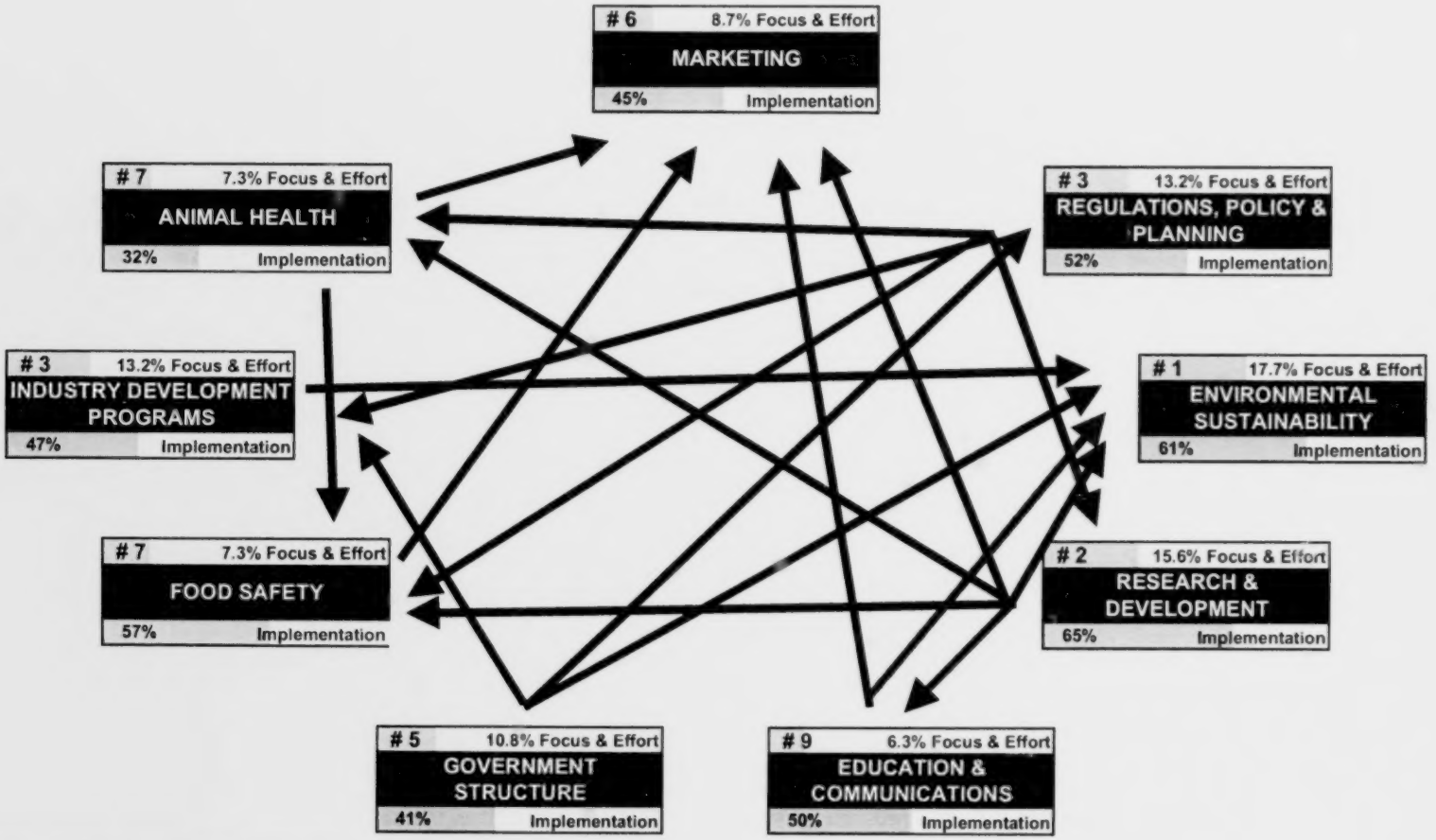
Summary Table 1.

This table is a graphic representation of the eleven elements identified in the Maritimes industry and other stakeholders meeting, along with the results of each exercise (gaps analysis, relational analysis, and resource allocation).



Summary Table 2.

This table is a graphic representation of the nine elements identified in the Maritimes government stakeholders meeting, along with the results of each exercise (gaps analysis, relational analysis, and resource allocation).



ANNEX I. REGIONAL AQUACULTURE STAKEHOLDER WORKSHOPS
INDUSTRY AND OTHER STAKEHOLDERS' PERSPECTIVES
Maritimes (Moncton, NB) - August 28, 2002

The following represents the comments of individual participants attending at the workshop. It does not necessarily reflect consensus or agreement.

ELEMENTS & INITIATIVES (Transcription from Post-It notes)

1. MARKETING – Meeting consumer demands and expectations re quality and safety

Federal Initiatives
The federal government has:
- A joint project agreement to promote industry image.
- Established a generic marketing and promotion campaign for Canadian aquaculture products, and has provided a share of the resources required carrying this out.
- Done huge promotion of our "best in the world" aquaculture unique products.

Provincial Initiatives
The provincial government has:
- A joint project agreement to promote industry image.

Industry Initiatives
The industry has:
- A joint project agreement to promote industry image.
- Responded to consumer demands.

Other Initiatives
Other groups have:
- Retail food industries have promoted aquaculture products due to their high quality standards and ready availability.
- Consumer demanded certain products.

2. FOOD SAFETY / QUALITY – Harmonized approach to ensure safe and effective aquaculture products; effective third-party programs for quality assurance.

Federal Initiatives
The federal government has:
- Authorized third-party labs to do time and cost-effective testing for the industry (e.g. biotoxins, water quality, phytotoxins, etc.).
- Maintained reciprocity with other jurisdictions. HACCP.
- Utilizes contaminated zones for shellfish aquaculture.

Provincial Initiatives
The provincial government has:
- Utilizes contaminated zones for shellfish aquaculture.

Industry Initiatives
The industry has:
- Continued its ongoing development of Codes of Practice and Best Management Practices.
- Industry adopted traceability practices like that of NSSP as it pertains to shellfish.

3. R&D / INNOVATION – A planned and funded approach to R&D / innovation in support of industry productivity and maintaining natural biodiversity.

Federal Initiatives

The federal government has:

- Used fisheries by-catch as a source of aquaculture feed ingredient
- Regional research facilities to do R&D work on developing species, invasive species, and climate change.

Industry Initiatives

The industry has:

- Determined which species of aquaculture best fit the growth requirements to meet consumer price demands, food value / health, environmental aspects, federal / provincial policy and regulations.
- Funded and supported R&D.
- A lead role in determining R&D priorities and supports, both through in-kind and cash, these initiatives.
- Developed more environmentally friendly growing facilities on land based, sea ranching, and coastal areas.
- Developed new technology for hatchery capacities.

Other Initiatives

Other groups have:

- Science has been completed and applied to maintain biological diversity.
- Service sector to aquaculture re transportation, marketing, packaging, etc., will keep pace with new technology to meet the increased world demand.
- Science-based knowledge to address issues, and adequate resources for research.

4. ENVIRONMENTAL SUSTAINABILITY – Initiatives aimed at ensuring that aquaculture is environmentally sustainable.

Federal Initiatives

The federal government has:

- Moved marine finfish aquaculture from coastal waters into land-based production systems
- DFO as lead agency, and agencies such as Health Canada and Industry Canada have created a smooth integration of regulations affecting water quality so that industry provides the highest quality end product.
- DFO developed a collaborative framework between industry players and stakeholders utilizing a sound environmental database in which the industry is continuing to grow.
- Financially and through direct research, assisted with the development of technologies that utilize aquaculture waste streams
- In conjunction with the provinces, clearly determined what department is responsible to ensure that upland activities (i.e. agriculture, development, etc.) don't have a negative impact on water quality.
- Collected baseline data for areas being developed and made rational decisions based on the processing of that data.

Provincial Initiatives

The provincial government has:

- Protected quality of water resources.
- Moved marine finfish aquaculture from coastal waters into land-based production systems
- Provincial agencies have provided regulatory standards for water quality for aquaculture operations in partnership with industry.
- In conjunction with the federal government, clearly determined what department is responsible to ensure that upland activities (i.e. agriculture, development, etc.) don't have a negative impact on water quality.

Industry Initiatives

The industry has:

- Moved marine finfish aquaculture from coastal waters into land-based production systems.

- Land-based facilities evolved to become large-scale commercial enterprises in full control of production environment with zero discharge.
- Developed standards and technology to address water quality and insure 100% clean water systems.
- Developed viable economic activities based on utilizing aquaculture waste streams.
- Recognized and responded to its corporate accountability to responsibilities.
- Developed and adhered to Codes of Practice (environment, safety, etc.).

5. **INVESTMENT** – Enhanced access to investment and working capital and reduced financial risks.

Federal Initiatives

The federal government has:

- Under the leadership of DFO, all barriers to development have been removed bringing all levels of government in harmonization and in partnership with industry and the investment community.
- Forced FCC to actively participate in development.
- Allowed any bank that wanted to do business in Canada, until Canadian banks signed on.
- Supported development by providing working capital.

Provincial Initiatives

The provincial government has:

- Provided loan guarantees as a standard.
- A net income stabilization program for aquaculture products.

Industry Initiatives

The industry has:

- Lobbied the federal government for working capital to support development.

6. **POLICY / REGULATIONS** – An appropriate and equitable policy and regulatory framework for industry and other stakeholders and environmental sustainability developed and implemented in an open and transparent process; delineation of developmental and regulatory functions; clarification of public and private rights; delineation of federal / provincial roles.

Federal Initiatives

The federal government has:

- (DFO) Drafted policies only after consultations with industry.
- Made transparent, open and public the process for review / assessment of license / lease.
- Uphold principle of marine waters as a common property resource.
- Separated development from enforcement to the appropriate agencies / departments.
- Issued export permits for aquaculture products.
- Inter-provincial standardization of codes of practice and quality control standards.
- Reasonable timelines and costs associated with site allocations (leasing) that ensure the access of new entrants into the industry.
- A site application process that is predictable, efficient, transparent and cost-effective with a template environmental assessment process.
- DFO has realized that the office of the Commissioner for Aquaculture Development must be larger than that of DFO itself.
- Ensured that new people and ideas can be tried by having appropriate funding.
- Finally defined the word "aquaculture" in legislation.
- DFO has recognized aquaculture as a distinct entity from conventional fishery.
- Done more funding, organizing, and distribution.
- Provided access to good and objective science.
- DFO has realized that aquaculture is not an affirmative action plan for displaced conventional fishermen.
- A distinct recognition of aqua**culture** as agri**culture** or fisheries.

- Ensured that aquaculture development does not occur at the expense of the wild fishery, rather maintain and / or enhance it.
- Initiated a coastal zone management plan that recognized First Nation treaty rights, commercial fisheries, navigation issues, aquaculture needs and recreational uses.
- Harmonized (within departments and with provinces) the duration of lease tenure, NWP permits, licenses / permits, etc., to allow longevity and financial stability. 20 years renewable.
- Clearly defined what department is responsible to protect the property rights of leaseholders re issues of enforcement (e.g. theft, vandalism, etc.).
- Federal funding programs recognize the variance in fiscal needs that are associated with species time to market, scale of operation, location of operation.

Provincial Initiatives

The provincial government has:

- Drafted policies only after consultations with industry.
- Done more than just license aquaculture sites by also increasing extension services.
- Separated development from enforcement to the appropriate agencies / departments.
- Enforced codes of practice and quality control standards developed by industry.
- Shown a continued involvement and commitment to the development of an aquaculture industry.
- Made transparent, open and public the process to receive a license / lease.
- An aquaculture department with the budget and human resources required to provide extension services.

Industry Initiatives

The industry has:

- Developed codes of practice and quality control standards that are provincially enforced.
- Established codes of practice based on sound aquaculture practices and learned from other sectors.
- With visible support from the federal, provincial and environmental groups, increased awareness and acceptance of aquaculture and farmed fish, shellfish and aquatic products.

Other Initiatives

Other groups have:

- NGOs have access to public resources to make meaningful input to processes.

7. **INDUSTRY ASSOCIATIONS** – Effective and financially stable industry associations with full representation of the industry.

Federal Initiatives

The federal government has:

- Provided funding for industry associations.

Provincial Initiatives

The provincial government has:

- Provided funding for industry associations.

Industry Initiatives

The industry has:

- All companies are paying levy to fund industry associations.
- Strong well supported associations to represent their interests.

Other Initiatives

Other groups have:

- Strong associations moving the industry ahead, meeting with the federal and provincial government and promoting the industry.

8. TRAINING & EDUCATION / COMMUNICATIONS – Initiatives aimed at enhancing the skill level of aquaculture, support industry, public sector workers and infrastructure for aquaculture, particularly in the rural coastal areas; effective federal, provincial and industry funding; communication programs for enhanced public awareness.

Federal Initiatives

The federal government has:

- HRDC funded support for training / upgrading of existing managers / staff.

Provincial Initiatives

The provincial government has:

- Developed, in conjunction with other provinces, a harmonized aquaculture education system inclusive of all ages (i.e. grade school, aqua-science high school courses, community college, etc.), allowing for regional variations.
- Recognized the aquaculture industry as being a priority for providing money for educational training so that the industry now has a uniformly qualified, world class work force.

Industry initiatives

The industry has:

- Mastered the attraction of skilled labor to rural and coastal communities to meet sustainable development at all levels: scientific, technical, processing, management.
- Attracted human resources to the sector by providing good jobs.

Other Initiatives

Other groups have:

- Educational institutions have created leading-edge aquaculture courses and promoted public awareness of the industry and now provide a continuous stream of students to a futuristic industry.

9. PRODUCTIVITY & FISH HEALTH – Initiatives aimed at increasing aquaculture productivity and fish health management.

Federal Initiatives

The federal government has:

- Emergency funding in place for new crises.
- Provided compensation package to those who adopted fish health policy and require destruction of stocks.
- Scientifically supported GMOs.
- DFO approved a meal and oil fishery of herring for direct use in fish feed.
- Supported a major initiative to develop / research alternatives for fish feeds.

Industry Initiatives

The industry has:

- Each sector adopted a universal mandatory fish health
- Atlantic salmon industry has adopted GMOs technology to gain production edge over the rest of the world.
- Feed companies developed with federal support alternatives for fish meal and fish oil.
- The aquaculture producers had access to a constant supply of a variety of strains of species for commercial production.
- Land-based facilities were able to control all aspects of production to be able to meet market demands consistently throughout the year.

Other Initiatives

Other groups have:

- GMO biotechnology

- Outside biotechnology will be creating a demand for traditional raw materials used for current fish proteins.
- Environmental groups accepted GMOs as consumer environmentally-safe practices.

10. TRADE – Security of access to international markets; coordinated system for market and trade data.

Federal Initiatives

The federal government has:

- Led the development of a unified and shared database (technology, statistics, regulations, investment incentives, market data, etc.) for federal and provincial agencies and industry.
- DFO and DFAIT have developed policies between producing and consuming nations to eliminate trade barriers to market development for buyers and suppliers
- Put in place international agreements to ensure efficient trade with our key markets (e.g. US, EU, Asia, etc.). Concerns with new BioTerrorism Act on perishable products.

11. COMMUNITY INTERACTIONS – Planned, balanced and inclusive community approach to rural economic and social development.

Provincial Initiatives

The provincial government has:

- Aquaculture developed is par of an overall rural development plan.
- Provided social equity through development strategies to have growth take place in appropriate areas and by a balanced plan.

Industry Initiatives

The industry has:

- More participants
- Demonstrated a commitment to the community through aquaculture awareness tours, donation of product, participation in community associations and events, best management practices, support of on-going work re stream enhancement / water quality.

Other Initiatives

Other groups have:

- Community-based integrated (multi-stakeholders) management approach.
- Communities have recognized aquaculture as a sustainable resource-based industry by inviting industry participation on watershed groups, town councils, etc.

ANNEX II. REGIONAL AQUACULTURE STAKEHOLDER WORKSHOPS
GOVERNMENT DELEGATES PERSPECTIVES
Maritimes (Moncton, NB) - August 29, 2002

The following represents the comments of individual participants attending at the workshop. It does not necessarily reflect consensus or agreement.

ELEMENTS & INITIATIVES (Transcription from Post-It notes)

1. R&D – Planned, coordinated and cooperative approach to aquaculture R&D in support of present and future competitiveness, productivity and environmental sustainability.

Federal Initiatives
The federal government has:

- Made available funds and human resources for the New Species Development Program. Continued support for these programs.
- R&D initiated for value added products to make us competitive.
- Made key steps to coordinate R&D in Canada so industry benefit is maximized.
- Actively supported partnerships.
- Maintained an online repertory on R&D projects being carried out across the nation.
- Science networks of R&D based on ecosystem approach to examine integrated aspects of all resources in the aquatic environment species. Adequately resourced.
- Collected and provided data that supports site selection and project management, e.g. climate / weather, wildlife and fish, environmental quality.
- Long-term research into environmental effects / cumulative effects to address requirements under CEAA.
- Fully coordinated R&D program: from pilot to fully commercial that includes basic and applied R&D, investment, technology transfer, etc.
- Conducted research to determine any effects of aquaculture on commercial fishery species of interest and possible subsequent economic impact on those commercial fisheries. Supported biological Station in St. Andrews: funds, human resources. DFO in all provinces.

Provincial Initiatives
The provincial government has:

- Invested in enhancement of wild shellfish stocks.
- Promoted research / investigation into new and emerging technology (off shore technology) in order to move the industry forward and allow continued growth.
- Participated in R&D and technology transfer for optimal utilization of aquaculture sites.
- Des efforts particuliers ($, personnel) ont été mis à jour pour promouvoir l'elevage d'espèces sous utilisées (mollusques, etc.). (We have put specific effort ($ and personnel) to develop underutilized species (molluscs, etc.).
- Conducted research on technology transfer.
- Developed / adapted funding programs to suite the industry needs: research, development, commercial stage.
- Ongoing review of available technology and a program to promote importing technology.

Industry Initiatives
The industry has:

- Industry in each province had their production strategies spelled out and available to the public (accepted by) (Set short-term / long-term goals / action plan).
- 1. The associations set up a clearly defined R&D document (long and short-term needs). 2. This document was disseminated to groups conducting aquaculture research and providing the funding (government, university, and institutes). 3. The document was used as a guideline, and provided the framework or how R&D funds were allocated. 4. Government agencies (institutes, provincial, federal) took the financial lead (and scientific lead) on research with long-term deliverables (with environmental impact, new species development).

A technology transfer process is in place to transfer this information to the industry when it reaches pre-commercial stage. 5. Industry takes the lead on the short-term research.

- Allocated resources for research projects that would be used to back up specific requests for change in government policy.
- Worked with large multinational private companies to attract R&D people and projects into local area.
- Recognized need to maximize production from existing surface area being utilized by industry.
- A levy on its production to establish an R&D fund and council controlled by industry with the participation of the federal and provincial governments.
- Worked with provincial regulators to develop environmentally sustainable methods and / or products to collectively dispose of waste blood and meal and other waste.
- Recognized that traditional species economics require diversification of aquaculture sector.
- Worked with provincial and federal authorities to fund new species development and trials to incorporate new technologies.
- Established an R&D sector / fund to evaluate new technology.
- Large aquaculture companies have staff expertise to conduct R&D and interact with scientists in government.

Other Initiatives

Other groups have:

- Adopted science-based decisions pertaining to attitudes toward aquaculture by cooperating with the aquaculture industry on environmental impacts of aquaculture in developing research programs.
- Universities assisted in developing programs and research to provide personnel and knowledge to the industry.

2. EDUCATION & COMMUNICATIONS – Coordinated partnership approach to information management; enhanced public awareness re aquaculture; technology training for industry.

Federal Initiatives

The federal government has:

- Created a Federal Council Coordination Committee complete with one-stop-shopping for information, interpretation and communication of all aspects of aquaculture.
- Created an office to deal with media and public relations, which is responsible for information addressing topics of public concern and commenting on / refuting good or bad press / untrue accusations.
- Results from research are fully interpreted and communicated to the public in a pro-active manner (public communication flow).
- The role of the federal and provincial governments has become complementary in order to ensure effective communications and a solid framework. How: developed the strategy, decided to implement it at all levels, had a commissioner or ombudsman or deputy minister who set up a team from each department involved with aquaculture, who ensures that policies are communicated and implemented. Then reported.
- Collected and disseminated statistics that allowed true costs and benefits of aquaculture to be recognized and thereby facilitated identification of growth strategies with greatest potential for success.
- Collected statistics that helped making clear the distinction between value of wild stocks and aquaculture.
- DFO has developed inter-federal integrated approach to support and deal with issues related to aquaculture.
- DFO has a person responsible for media relations who addresses any misleading or negative press on the topic of aquaculture.
- Fed / provincial et industrie ont developpé une stratégie commune visant à etablir les objectivs (production / march.). (The federal / provincial governments and industry developed a common strategy for the establishment of objectives (production / market).

- Improved communication of information to public with regards to programs that are in place to ensure a safe product.

Provincial Initiatives
The provincial government has:
- Created a provincial council coordination office complete with one-stop-shopping for information, interpretation and communication of all aspects of aquaculture.
- Developed a statistic gathering system or process.
- Coordinated and financially supported training workshop through DAFA and community college.
- Participated in maintaining regional cooperation among industry / government / university to further industry development.
- Provinces have integrated aquaculture into schools so that our next generation is well educated.
- Developed high schools programs in cooperation with industry to provide a comprehensive program with respect to sustainable aquaculture development and practices.
- Provided more information to the public to break the barriers with regard to making aquaculture attractive as a business opportunity.

Industry Initiatives
The industry has:
- Focused training programs on higher end jobs as jobs became more technical (which resulted from more mechanization of production techniques driven by efficiency margins).
- Developed an education program in cooperation with the provincial government that has been incorporated into the school system based on sustainable aquaculture and the facts about aquaculture.
- Publicized the results from environmental monitoring.
- Recognized rights and interests of other stakeholders (other water users).

Other Initiatives
Other groups have:
- Utilized knowledge and expertise to benefit the industry. Partnership at ground levels.

3. MARKETING – Initiatives aimed to enhance consumer and investor confidence; industry and government support.

Federal Initiatives
The federal government has:
- DFAIT has taken a proactive approach with the aquaculture sector to protect our exporters from trade claims by other countries.
- Encouraged the development of a joint marketing (generic) program between Maine and New Brunswick in order to guarantee an established market.
- Agriculture and Agri-Food Canada, who now has mandate in seafood marketing, has money to finance programs and has developed mechanisms to seek input of the fisheries sector in seafood marketing.
- Promoted aquaculture business opportunities (building on OCAD's research) to investors (small, medium, large businesses). Lead: Industry Canada (ACOA)?

Provincial Initiatives
The provincial government has:
- Supported trade missions and identification of opportunities in marketing and technology transfer.

Industry Initiatives
The industry has:
- Standard industry identification of product sold that meets health and environmental guidelines.

- Processors of aquaculture product in Canada work cooperatively to maintain good margins on their products.
- Industry associations developed marketing strategies focusing on the environmental and economic benefits of aquaculture in comparison to other industries.
- Has adopted a quality standard of food quality that was recognized around the world.

4. ENVIRONMENTAL SUSTAINABILITY – Involvement of all stakeholders in the elaboration of codes / standards including proper monitoring and enforcement; established an ICZM plan.

Federal Initiatives

The federal government has:

- Contributed to / endorsed and audited industry-developed code of practice related to environmental / health best practices through federal decision-making processes (e.g. EA). Based on audit, penalties could take form of fines, withdrawal of permits, insurance coverage.
- Accepted standards / definition of "deleterious substances" under Section 36 of the Fisheries Act in relation to aquaculture activities.
- Defined environmental sustainability as it will be applied to aquaculture development.
- Integrated management of coastal zone, DFO lead to protect fish habitat. Aquaculture sector at table.
- Placed resources to facilitate aquaculture site allocation. Delays are now of less than 12 months.
- Recognized, under CEA, accepted codes of practice in relation to "fish habitat".
- "Certified" the codes of conduct for use in the CEAA process.
- Implemented ICZM by ecosystems – watersheds that integrate upland users with coastal aquaculture users.
- Balanced the risks to the community (use of therapeutants, etc.) against risks to the farm. I.e. one cottage owner has right to say they don't want one farm in the bay). (Coastal zone management document).
- Accepted, endorsed, communicated, and enforced the federal environmental standards code of practice.
- Des règlements spécifiques à l'aquaculture ont été developpés: zones contaminées, collecte de naissain, taille de récolte / saison, etc. (regulations specific to aquaculture have been developed: contaminated areas, seed collection, harvesting size, etc.

Provincial Initiatives

The provincial government has:

- Bought into ICZM
- Adopted a community approach for the management / development of aquaculture.
- Defined the environmental objectives to be achieved for each region, and implemented a development strategy / policy to ensure those objectives were met.
- Implemented a fully ICZM that includes upland users with aquatic users.
- A fully functional and resourced enforcement arm of regulatory agencies for investigations and follow-ups.

Industry Initiatives

The industry has:

- An environmental code of practice that is enforced and open to the public.
- Implemented fully functional environmental monitoring programs that were audited by government agencies and made available to the public.
- Considered effect on fish habitat in codes of practice to address CEA.
- Created codes of conduct (practice).
- Codes of practice that defined "physical" practices / structures to address concerns by public, i.e. the view from the shore.

Other Initiatives

Other groups have:

- Stakeholders' roles and responsibilities are clearly defined for active participation on ICZM committees (legitimate stakeholders).
- NGOs specifically defined the environmental features that must be protected.
- Other stakeholders have worked on "long-term planning" with industry / government and local residents to come up with an "acceptable" long-term use of the waterway, respecting various stakeholders needs, and the future need of the "public good".
- Active / legitimate users of coastal zone as equal partners in ICZM.
- Communities are partners in the development of aquaculture.
- Competitive often means bigger; environmental sustainability often does not support bigger. Even if environmental sustainability supports bigger, maybe society does not want big (or faster, or genetically modified). International watchdog agency monitoring competitiveness (and the things companies do to be competitive) vs. environmental standards and vs. social acceptance / impact / development.

5. REGULATION / POLICY / PLANNING – Harmonizing and coordinating regulations to facilitate industry growth especially for shellfish industry; separation of fisheries regulations and aquaculture regulations.

Federal Initiatives

The federal government has:

- Created an aquaculture coordination committee across federal departments for investment, R&D, and funding programs (regional, zonal, national).
- Implemented an Aquaculture Act to legislate aquaculture separate from fisheries.
- Introduced mirror legislation (federal and provincial) that governs aquaculture industry using Canada-NS and Canada-NB Accord Acts for offshore oil and gas as model. Created a joint body to implement, such as Offshore Petroleum Boards.
- Established an ICZM regime between the federal government and the provincial government including the participation of other users of ocean resources.
- Established Boards for specific zones and issued recommendations to the Minister of Fisheries for 5-10 year periods.
- Supported or developed labeling program that allows operators to demonstrate compliance with best practices as a "competitive" edge.
- Invested in shellfish enhancement with the provinces and industry with long-term programming.
- Not constrained shellfish producers (particularly oysters) by regulations designed to conserve and protect wild stocks.
- NWP approval is longer-term than 5 years, more in line with provincial approvals of 20 years.
- An enabling regulatory framework in relation to aquaculture.
- Amended the Fisheries Act to recognize the continuum from fisheries – enhancement – aquaculture with specific management / regulations for cross-over activities.
- Enabled offshore aquaculture development with new legislation for all aspects – harmonized with provincial / territorial legislation. Includes CEAA and species at risk cross-reference.
- Resolved jurisdictional issues between the federal and provincial government re territory (seabed).
- DFO has developed a fully integrated multi-disciplinary approach to aquaculture. DFO has created a multi-disciplinary team in the Regions to focus only on aquaculture.

Provincial Initiatives

The provincial government has:

- Developed policies that allow domestic growers to remain competitive with large multinationals.

- Monitored industry's code of practice.
- Monitored fish health and environment. There is a biosecurity process. Audited / monitored site management.
- Conferred property rights with leases, to assist in financing.
- Monitored the socio-economic aspects of aquaculture and incorporated them into management policy on a regular basis.

Industry Initiatives
The industry has:
- Industry's code of practice initiated zoning requirements for 2 year-old fish being carried into summer for large fish summer harvest in conjunction with fall placement of smolt program.
- Adopted code of practice for growing, harvesting and transporting product.
- Developed a policy for fish transport / wharf usage, to overcome fish health and environmental concerns.
- Amended regulation to streamline and expedite process.
- A clear set of aquaculture regulations independent of the fisheries regulations.

6. **ANIMAL HEALTH** – Functional National Aquatic Animal Health Program (NAAHP)

Federal Initiatives
The federal government has:
- Fully implemented a National Aquatic Animal Health Program (NAAHP) including compensation program and R&D component.
- Functioning NAAHP
- Funded a NAAHP with buy in by the provinces and industry. The NAAHP results in our products being traded world-wide
- Developed a comprehensive NAAHP to protect international trade of aquaculture products.
- Implemented comprehensive aquatic health program.
- Developed a comprehensive NAAHP.

Industry Initiatives
The industry has:
- Developed and adhered to codes of practice that pertain to good health practices.

7. **FOOD SAFETY** – Industry HACCP program; depuration facilities; managing biotoxin species by species.

Federal Initiatives
The federal government has:
- Managed marine biotoxin closures on a species by species basis.

Industry Initiatives
The industry has:
- Adopted processing and labeling standards, CFIA HACCP guidelines.
- Developed commercial viable marine biotoxin depuration systems for shellfish.
- Implemented on-farm HACCP based food safety programs.

8. **GOVERNMENT STRUCTURE** – Harmonized approach including delineation of federal / provincial roles; structured and fully resourced team-based management with performance evaluation; delineation of developmental and regulatory roles; re-define DFO's name to reflect proper visibility to aquaculture.

Federal Initiatives
The federal government has:
- Dedicated $ / resources devoted specifically toward aquaculture integrated program: managers, CSP, Scientists, Habitat, Researchers, etc.

- Pêches et oceans s'appelle maintenant "ressources halieutiques" et dispose d'équipes multidisciplinaires (Fisheries and Oceans is now called "aquatic resources" and it has multidisciplinary working teams).
- 15 years from now, same team sitting at the table, informed, consistent part of process, dedicated to task, committed to task, their employer makes the time and financial resources available to that team member to do the job, autonomy (must be empowered to make decisions).
- DFO has changed its name to "Department of Marine Management". There are four branches: aquaculture, fisheries, environment, and coastal zone management. Its approach reflects multiple sector and disciplines.
- Clarified DFO's role. Many think they should lead, but have conflicting mandates (enforcement vs. development).
- Clearly separated the regulatory responsibility of government from their development role.
- DFO, the province and the industry have an harmonized approach to monitor programs on various strategies.
- Clarified responsibilities for aquaculture in terms of food inspection.

Provincial Initiatives

The provincial government has:

- 15 years from now, same team sitting at the table, informed, consistent part of process, dedicated to task, committed to task, their employer makes the time and financial resources available to that team member to do the job, autonomy (must be empowered to make decisions).
- Harmonized federal and provincial regulation / process light on sharing of information.
- Harmonized site allocation process to reduce red tape and delay.
- Along with the federal government, developed policies / regulations favoring species diversification: sites, health, species.
- Clearly separated the regulatory responsibility of government from their development role.
- Strong MOUs with DFO for program delivery.
- Les principaux minsteries fed. et prov. Ont etablis des voies de communication fonctionnelles. (The main Ministries / Departments of the federal and provincial government have established functional means of communication).

9. INDUSTRY DEVELOPMENT PROGRAMS – Support for First Nations involvement in aquaculture; enhanced infrastructure; safety net programs; financial support programs; development programs targeted toward increasing technology, infrastructure and investment in aquaculture.

Federal Initiatives

The federal government has:

- Improved the public infrastructure necessary to support the aquaculture and traditional industries: wharves, waste water treatment facilities, waste disposal. Support small craft harbors(study and $ to implement).
- Provided key incentives for Canadian owner firms to invest in Canadian aquaculture. Incentives that are not available to farms outside Canada.
- Provided key leadership to safety net programs to support aquaculture: income stabilization, crop insurance.
- Provided funding support to universities / provinces that support aquaculture development, e.g. research chairs scholarships.
- Implemented "crop" insurance program (like agriculture) that supports "high risk" ventures related to advancing diversification species and multiple species on same site. Crop insurance program supports profit sharing used for R&D.
- Provided regulators education, research and funding programs that support diversification of aquaculture industry.
- Program $ to apply research to development. Assisted pilot scale development and then commercialization.

- Created conditions for investment by Aboriginal communities in aquaculture initially via targeted $ assistance, then (concurrently?) via policy / legislation changes that facilitate Aboriginal borrowing, while balancing investment in non-Aboriginal communities.
- Continued to provide financial assistance to smaller companies so that there is a healthy level of competition with the larger firms. Such assistance would focus on environmental assessments, new technologies, marketing, and skills development.
- Provided tax incentives for commercial fishermen to invest in aquaculture.
- Minimized the cost of environmental approvals or subsidies so small / medium sized Canadian companies can exist. This would reduce the risk of $ leaving Canada by multinational companies.

Provincial Initiatives

The provincial government has:

- Research: created proper environment (infrastructure, people, $) to increase innovation in sector as well as value added.
- Participate in a crop insurance program adapted to industry needs: R&D – Profit, Pre-commercial, and Commercial.
- Finalized a safety net / crop insurance program to stabilize the industry and increase investor's confidence.
- Bought in to fund a safety net program for the aquaculture sector similar to agriculture.
- Infrastructure: waste treatment facilities.

Industry Initiatives

The industry has:

- A "crop insurance" program (jointly with the federal and provincial government) to provide investment security.
- Industry associations have developed funding mechanisms.
- Industry has achieved "true" single year class farming of salmon finfish with no hold-overs.

Other Initiatives

Other groups have:

- Some Aboriginal communities have invested in aquaculture opportunities, using revenues generated from other economic development enterprises. Federal and provincial governments encouraged economic development investment by Aboriginal communities.

ANNEX III. LIST OF PARTICIPANTS - MARITIMES WORKSHOP

Industry and Other Stakeholders

NAME	AFFILIATION
Jamey Smith	Aquaculture Association of Nova Scotia
Stephen Fortune	PEI Aquaculture Industry Alliance
Johnny Flynn	PEI Aquaculture Industry Alliance
Crystal McDonald	PEI Aquaculture Industry Alliance
Gary Rogers	PEI Aquaculture Industry Alliance
Sandy Siegel	Maritimes Fishermen Union
Florence Albert	Assoc. des Conchyliculteurs Professionnels du N.-B
Julien Albert	Produits du Golfe St. Laurent Ltée
Inka Milewski	Conservation Council of New Brunswick
Bob Cochrane	Fundy Weir Fishermen Association Inc.
Kenneth Brown	Aquaculture Association of New Brunswick
Bob Sweeney	Aquaculture Association of New Brunswick
Roger Nason	New Brunswick Aboriginal Peoples Council
Don Wolverton	New Brunswick Trout Farmers Association
David Roberts	Millbrook First Nation
Brian Blanchard	Aquaculture Association of Nova Scotia
Lee H. Corey	Corey Feed Mills Ltd.
Doug Bertram	Aquaculture Association of Nova Scotia
Glen Brown	Aquaculture Association of Nova Scotia
Sirje Weldon	Aquaculture Association of Nova Scotia
Donnie Strongman	PEI Fishermen's Association
Martin Mallet	Moncton University
Charles Dennis	Eskasoni First Nation - Fish & Wildlife Commission
Andrew Boghen	Moncton University

Government Stakeholders

NAME	AFFILIATION
Darrell Welles	Government of NB - Environment and Local Government
Chris Mills	Government of PEI -
Hugh Madill	Government of NB - Agriculture, Fisheries and Aquaculture
Richard Gallant	Government of PEI - Fisheries, Aquaculture and Environment
Melinda Donovan	Department of Fisheries and Oceans
Barry Jeffrey	Environment Canada
Terry Jones	Farm Credit Canada
John White	Canadian Food Inspection Agency
Sarah Hechavarria	Indian and Northern Affairs Canada
Dale Small	Department of Fisheries and Oceans
Tom Sephton	Department of Fisheries and Oceans
Alison McGarry	Government of NB - Agriculture, Fisheries and Aquaculture
Cindy Webster	Department of Fisheries and Oceans
Maurice Mallet	Department of Fisheries and Oceans
Maurice Levesque	Department of Fisheries and Oceans
Susan Vatcher	National Research Council
Christian Noris	Government of NB - Agriculture, Fisheries and Aquaculture
Mary Stephenson	Department of Fisheries and Oceans
Robert Rioux	Government of NB - Agriculture, Fisheries and Aquaculture
Lori Robinson	Atlantic Canada Opportunities Agency
Wade AuCoin	Atlantic Canada Opportunities Agency

BUREAU DU COMMISSAIRE AU DÉVELOPPEMENT DE L'AQUACULTURE

OCAD
BCDA

"UN RÔLE APPROPRIÉ DU GOUVERNEMENT FÉDÉRAL EN AQUACULTURE

Résultats des ateliers régionaux
Maritimes
28 et 29 août 2002

Droit d'auteur. Septembre 2002

Ce document a été rédigé dans les langues utilisées à l'atelier

Bureau du Commissaire au développement de l'aquaculture

Canada

UN RÔLE FÉDÉRAL APPROPRIÉ EN AQUACULTURE
BUREAU DU COMMISSAIRE AU DÉVELOPPEMENT DE L'AQUACULTURE
Rapport sur les ateliers des intervenants
Maritimes – 28 et 29 août 2002

À la demande du ministre des Pêches et des Océans Canada, le Bureau du Commissaire au développement de l'aquaculture (BCDA) du Canada doit identifier les mesures nécessaires à la mise en œuvre complète de la Stratégie fédérale de développement de l'aquaculture. Un élément clé de ce mandat consiste en l'élaboration d'une vision stratégique à long terme du développement de l'aquaculture au Canada et l'identification d'un rôle approprié du gouvernement fédéral pour participer à la réalisation de cette vision.

C'est dans ce contexte que le BCDA a organisé onze ateliers régionaux avec des représentants de l'industrie, des gouvernements et d'autres intervenants pour solliciter l'opinion de tous les partenaires directement impliqués dans le développement de l'aquaculture au Canada. Dans chaque région (sauf dans les Prairies[1]), des séances séparées ont été organisées avec 1. des intervenants de l'industrie et autres intervenants et 2. des représentants des gouvernements fédéral et provincial. Grâce à ces ateliers, une synthèse des différents points de vue quant aux éléments essentiels au développement du secteur aquacole canadien a pu être réalisée et les responsabilités des différents intervenants ont pu être identifiées. On définit un **élément** comme une importante composante de la vision qui deviendra une priorité stratégique.

Chaque atelier s'est déroulé selon un processus identique :

- Présentation des données de base sur le mandat du BCDA
- Présentation de la question sur la vision
- Remue-méninges
- Identification des éléments essentiels
- Exercices de priorisation
  - Analyse des lacunes
  - Analyse relationnelle
  - Allocation des ressources

Question sur la vision

Nous sommes en 2017 et le Canada est parvenu à réaliser son plein potentiel en aquaculture : un secteur d'investissement névralgique considéré comme une source d'approvisionnement sûre en poissons et fruits de mer qui respecte l'environnement, qui fournit des emplois aux collectivités côtières et rurales, qui a un impact positif sur l'économie canadienne et qui ne suscite aucune critique. Comment en sommes-nous arrivés là ?

Le présent rapport présente les résultats préliminaires des ateliers tenus dans la Région des Maritimes les 28 et 29 août, 2002. Les annexes I et II constituent le compte rendu textuel des éléments identifiés par les représentants de l'industrie et autres intervenants, et les représentants du gouvernement, respectivement. Les résultats et opinions présentés dans ce rapport

[1] Dans les Prairies, une réunion conjointe a été organisée avec les représentants de l'industrie et d'autres intervenants et les représentants des gouvernements fédéral et provinciaux.

réflètent celles des individus ayant participé aux ateliers. Toutefois, ces résultats et opinions ne représentent pas nécessairement les positions officielles de leurs organisations ou associations respectives. Une analyse de l'ensemble des ateliers et toute l'information détaillée seront disponible d'ici peu sur le site Web du BCDA à http://ocad-bcda.gc.ca.

RÉSULTATS PRÉLIMINAIRES

1. IDENTIFICATION DES ÉLÉMENTS ET ANALYSE DES LACUNES

Pendant l'atelier, les représentants de l'industrie et les autres intervenants ont déterminé onze (11) éléments, et ceux du gouvernement, neuf (9) éléments. Ces éléments sont définis dans les tableaux 1 et 2. Une note a été attribuée à chacun d'eux pour indiquer l'opinion collective des participants aux ateliers quant au niveau de réalisation actuelle par rapport à leur mise en œuvre complète. Les pourcentages ont été attribués selon l'échelle suivante : 0 % - aucun progrès quant à la mise en œuvre; 25 % - retard quant à la mise en œuvre; 50 % - ni progrès, ni retard; 75 % - progrès vers la mise en œuvre complète; 100 % - mise en œuvre complète.

Tableau 1 : Éléments et analyse des lacunes Industrie et autres intervenants

Mise en marché 49 %	• Satisfaction des demandes des consommateurs en ce qui concerne la qualité et la salubrité.
Qualité et salubrité des aliments 60 %	• Approche harmonisée visant à veiller à la salubrité et à l'efficacité des produits aquacoles. • Programmes efficaces de tierces parties pour l'assurance de la qualité.
R-D/Innovation 46 %	• Une approche planifiée et financée pour la R-D/l'innovation visant à soutenir la productivité de l'industrie et à maintenir la biodiversité naturelle.
Viabilité écologique 60 %	• Initiatives visant à veiller à ce que l'aquaculture soit écologiquement viable.

Tableau 2 : Éléments et analyse des lacunes – Gouvernements

Mise en marché 45 %	• Initiatives visant à accroître la confiance du consommateur et de l'investisseur. • Soutien de l'industrie et du gouvernement.
Salubrité des aliments 57 %	• Programme d'ARMPC de l'industrie. • Installations de dépuration. • Gestion des biotoxines selon chaque espèce.
R-D 65 %	• Approche planifiée, coordonnée et coopérative pour la R-D en aquaculture visant à soutenir la compétitivité, la productivité et la viabilité écologique, pour aujourd'hui et demain.
Viabilité écologique 61 %	• Participation de tous les intervenants à l'élaboration de codes/de normes, y compris la surveillance et la mise en application adéquates de la loi. • Établissement d'un plan de GIZC.

Politiques/ Règlements 32 %	• Un cadre de politique et de réglementation approprié, équitable et écologique pour l'industrie et les autres intervenants, élaboré et mis en œuvre dans le cadre d'un processus ouvert et transparent. • Délimitation des fonctions de développement et de réglementation. • Éclaircissement des droits publics et des droits privés. • Délimitation des rôles des gouvernements fédéral et provinciaux.
Formation et apprentissage/ communications 29 %	• Initiatives visant à améliorer le niveau de compétence pour l'aquaculture et à soutenir l'industrie, les travailleurs du secteur public et l'infrastructure de l'aquaculture, plus particulièrement dans les régions côtières rurales. • Financement efficace du gouvernement fédéral, des provinces et de l'industrie. • Programmes de communication visant à accroître la sensibilisation du public.
Productivité et santé du poisson 49 %	• Initiatives visant à améliorer la productivité aquacole et la gestion de la santé du poisson.
Associations de l'industrie 70 %	• Associations de l'industrie efficaces et financièrement stables, représentant toute l'industrie.

Politiques/ règlements/ planification 52 %	• Harmonisation et coordination des règlements afin de faciliter la croissance de l'industrie, plus particulièrement l'industrie des mollusques et crustacés. • Faire la distinction entre les règlements sur la pêche et ceux sur l'aquaculture.
Apprentissage et communications 50 %	• Approche de partenariat coordonnée pour la gestion de l'information. • Sensibilisation accrue du public à l'aquaculture. • Formation en technologie pour les membres de l'industrie.
Santé des animaux 32 %	• Programme canadien de la santé des animaux aquatiques (PCSAA) en place.
Programmes de développement de l'industrie 47 %	• Appui de la participation des Premières nations à l'aquaculture. • Infrastructure améliorée. • Programmes de soutien du revenu. • Programmes d'aide financière. • Programmes de développement visant à améliorer les moyens technologiques, l'infrastructure et les investissements en aquaculture.

Investissements 42 %	• Accès accru aux investissements et aux fonds de roulement, et réduction des risques financiers.
Commerce 32 %	• Accès sécuritaire aux marchés internationaux. • Système coordonné pour les données sur le marché et le commerce.
Interactions communautaires 45 %	• Approche communautaire planifiée, équilibrée et englobante à l'égard du développement économique et social.

Structure du gouvernement 41 %	• Approche harmonisée, y compris la délimitation des rôles des gouvernements fédéral/provinciaux. • Gestion structurée et effectuée par une équipe possédant toutes les ressources voulues, et évaluation du rendement. • Délimitation des rôles de développement et de réglementation. • Rebaptiser le MPO pour donner une visibilité adéquate à l'aquaculture.

2. ANALYSE RELATIONNELLE (Éléments influents et dépendants)

Cet exercice a été réalisé pour définir une relation de cause à effet entre les éléments stratégiques. Les éléments « influents » sont les éléments qui, s'ils sont mis en œuvre, influeront sur la mise en œuvre des éléments dépendants. Si la cote est très élevée, il s'agit d'un élément influent (ÉI), alors que si la cote est très basse, il s'agit d'un élément dépendant (ÉD). Par contre, cela ne signifie pas qu'un élément dépendant n'est pas important. Cela suggère que si deux éléments ont une priorité semblable, il serait judicieux de tenir compte de l'impact de l'élément influent sur les autres éléments. Les tableaux 3 et 4 contiennent les résultats de l'analyse relationnelle.

Tableau 3 : Analyse relationnelle
Industrie et autres intervenants

ÉLÉMENT	COTE
R-D/ Innovation	2 ED
Investissements	11 EI
Politiques/ Règlements	6
Associations de l'industrie	5
Viabilité écologique	10 EI
Productivité et santé du poisson	7
Qualité et salubrité des aliments	1 ED
Formation et apprentissage/ communications	8
Commerce	4
Mise en marché	3 ED
Interactions communautaires	9 EI

Tableau 4 : Analyse relationnelle
Gouvernements

ÉLÉMENT	COTE
Viabilité écologique	2 ED
R-D	8 EI
Politiques/ règlements/ planification	9 EI
Programmes de développement de l'industrie	4
Structure du gouvernement	7 EI
Mise en marché	1 ED
Santé des animaux aquatiques	5
Salubrité des aliments	3 ED
Apprentissage et communications	6

3. ALLOCATION DES RESSOURCES

Pour l'exercice d'allocation des ressources, chaque délégué a reçu environ 50 % de ressources de plus que le nombre d'éléments. Par exemple, pour dix éléments identifiés, chacun des délégués a reçu quinze ressources. Les ressources représentent les ressources du secteur public, y compris l'argent des contribuables, les fonctionnaires et le temps. On a demandé aux délégués d'allouer leurs ressources aux éléments qu'ils jugeaient les plus importants. Ils pouvaient allouer toutes leurs ressources à un seul élément ou les répartir entre plusieurs éléments ou tous les éléments. Les résultats, exprimés par le pourcentage du nombre total de ressources allouées pour chaque élément, sont présentés aux 5 et 6.

Tableau 5 : Allocation des ressources
Industrie et autres intervenants

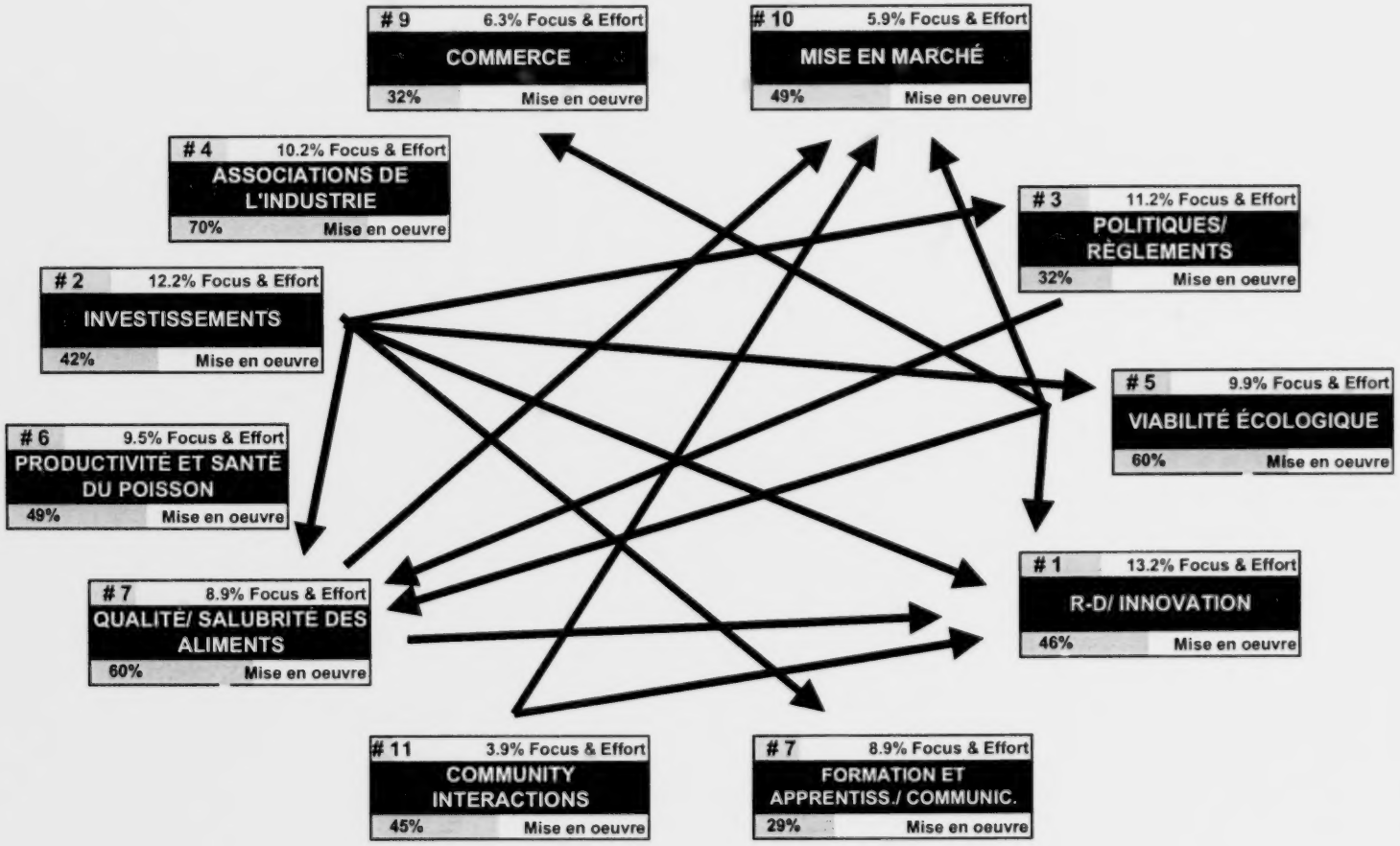
ÉLÉMENT	% des ressources allouées
1. R-D/ Innovation	13 %
2. Investissements	12 %
3. Politiques/ Règlements	11 %
4. Associations de l'industrie	10 %
5. Viabilité écologique	10 %
6. Productivité et santé du poisson	10 %
7. Qualité et salubrité des aliments	9 %
8. Formation et apprentissage/ communications	9 %
9. Commerce	6 %
10. Mise en marché	6 %
11. Interactions communautaires	4 %
TOTAL	100%

Tableau 6 : Allocation des ressources
Gouvernements

ÉLÉMENT	% des ressources allouées
1. Viabilité écologique	18 %
2. R-D	16 %
3. Politiques/ règlements/ planification	13 %
4. Programmes de développement de l'industrie	13 %
5. Structure du gouvernement	11 %
6. Mise en marché	9 %
7. Santé des animaux aquatiques	7 %
8. Salubrité des aliments	7 %
9. Apprentissage et communications	6 %
TOTAL	100%

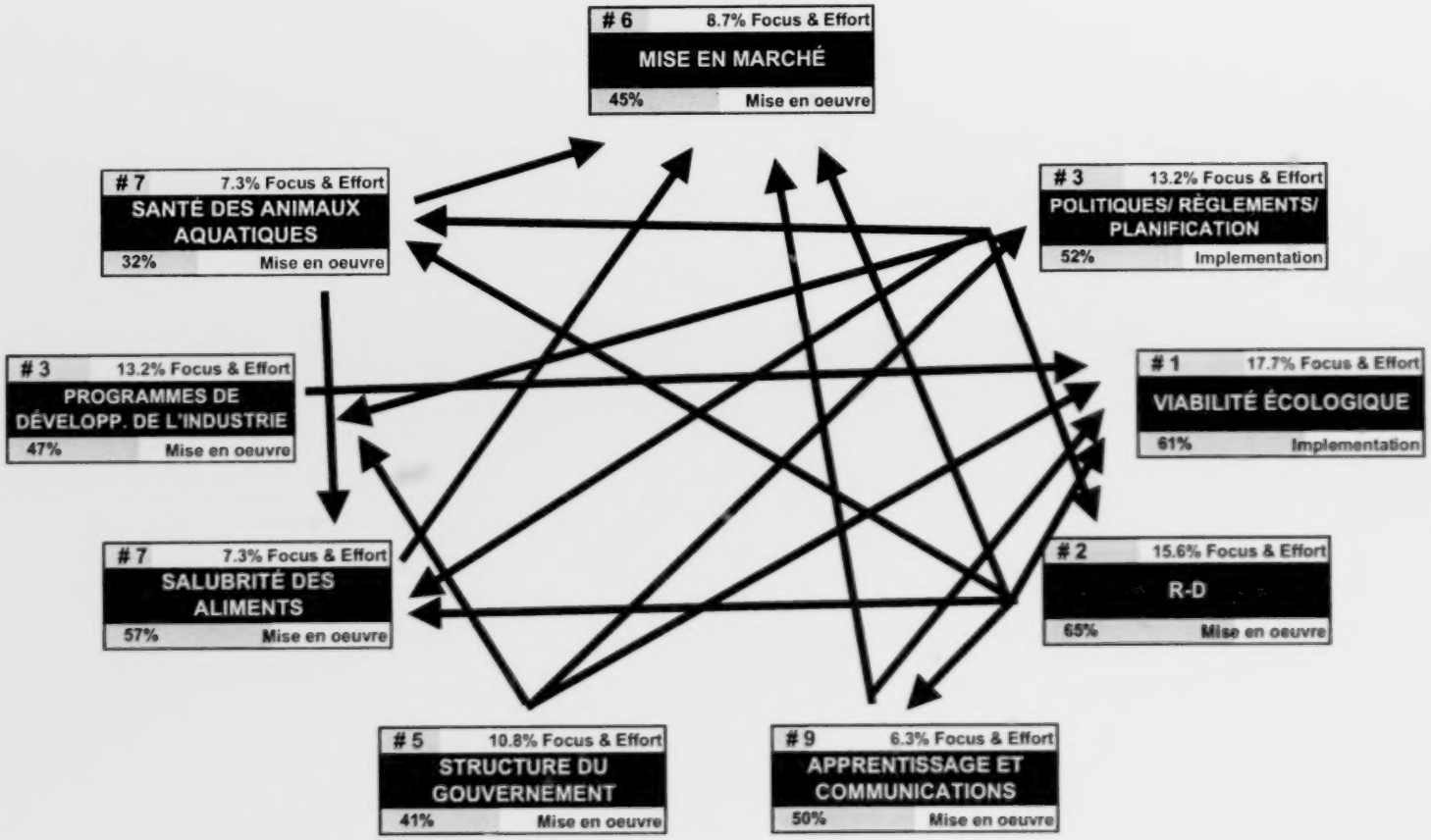
Résumé – tableau 1

Il s'agit d'une représentation graphique des onze éléments déterminés à l'occasion de la réunion de représentants de l'industrie des Maritimes et d'autres intervenants, ainsi que des résultats de chacun des exercices (analyse des lacunes, analyse relationnelle et affectation de ressources).


9 6.3% Focus & Effort
COMMERCE
32% Mise en oeuvre
10 5.9% Focus & Effort
MISE EN MARCHÉ
49% Mise en oeuvre
4 10.2% Focus & Effort
ASSOCIATIONS DE L'INDUSTRIE
70% Mise en oeuvre
3 11.2% Focus & Effort
POLITIQUES/ RÈGLEMENTS
32% Mise en oeuvre
2 12.2% Focus & Effort
INVESTISSEMENTS
42% Mise en oeuvre
5 9.9% Focus & Effort
VIABILITÉ ÉCOLOGIQUE
60% Mise en oeuvre
6 9.5% Focus & Effort
PRODUCTIVITÉ ET SANTÉ DU POISSON
49% Mise en oeuvre
7 8.9% Focus & Effort
QUALITÉ/ SALUBRITÉ DES ALIMENTS
60% Mise en oeuvre
1 13.2% Focus & Effort
R-D/ INNOVATION
46% Mise en oeuvre
11 3.9% Focus & Effort
COMMUNITY INTERACTIONS
45% Mise en oeuvre
7 8.9% Focus & Effort
FORMATION ET APPRENTISS./ COMMUNIC.
29% Mise en oeuvre

Résumé – tableau 1

Il s'agit d'une représentation graphique des neuf éléments déterminés à l'occasion de la réunion de représentants des gouvernements des Maritimes, ainsi que des résultats de chacun des exercices (analyse des lacunes, analyse relationnelle et affectation de ressources).


6 8.7% Focus & Effort
MISE EN MARCHÉ
45% Mise en oeuvre
7 7.3% Focus & Effort
SANTÉ DES ANIMAUX AQUATIQUES
32% Mise en oeuvre
3 13.2% Focus & Effort
POLITIQUES/ RÈGLEMENTS/ PLANIFICATION
52% Implementation
3 13.2% Focus & Effort
PROGRAMMES DE DÉVELOPP. DE L'INDUSTRIE
47% Mise en oeuvre
1 17.7% Focus & Effort
VIABILITÉ ÉCOLOGIQUE
61% Implementation
7 7.3% Focus & Effort
SALUBRITÉ DES ALIMENTS
57% Mise en oeuvre
2 15.6% Focus & Effort
R-D
65% Mise en oeuvre
5 10.8% Focus & Effort
STRUCTURE DU GOUVERNEMENT
41% Mise en oeuvre
9 6.3% Focus & Effort
APPRENTISSAGE ET COMMUNICATIONS
50% Mise en oeuvre

ANNEXE I.

ATELIERS RÉGIONAUX DES INTERVENANTS EN AQUACULTURE
PERSPECTIVES DE L 'INDUSTRIE ET DES AUTRES INTERVENANTS
Maritimes, 28 et 29 août 2002

Les commentaires qui suivent représentent uniquement les commentaires individuels exprimés par les participants lors de l'atelier. Il ne reflète d'aucune façon un consensus ou une ententre entre les participants.

ÉLEMENTS ET INITIATIVES (Transcription du contenu des autocollants)

1. **MARKETING** – Meeting consumer demands and expectations re quality and safety

Federal Initiatives
The federal government has:
- A joint project agreement to promote industry image.
- Established a generic marketing and promotion campaign for Canadian aquaculture products, and has provided a share of the resources required carrying this out.
- Done huge promotion of our "best in the world" aquaculture unique products.

Provincial Initiatives
The provincial government has:
- A joint project agreement to promote industry image.

Industry Initiatives
The industry has:
- A joint project agreement to promote industry image.
- Responded to consumer demands.

Other Initiatives
Other groups have:
- Retail food industries have promoted aquaculture products due to their high quality standards and ready availability.
- Consumer demanded certain products.

2. **FOOD SAFETY / QUALITY** – Harmonized approach to ensure safe and effective aquaculture products; effective third-party programs for quality assurance.

Federal Initiatives
The federal government has:
- Authorized third-party labs to do time and cost-effective testing for the industry (e.g. biotoxins, water quality, phytotoxins, etc.).
- Maintained reciprocity with other jurisdictions. HACCP.
- Utilizes contaminated zones for shellfish aquaculture.

Provincial Initiatives
The provincial government has:
- Utilizes contaminated zones for shellfish aquaculture.

Industry Initiatives
The industry has:
- Continued its ongoing development of Codes of Practice and Best Management Practices.
- Industry adopted traceability practices like that of NSSP as it pertains to shellfish.

3. **R&D / INNOVATION** – A planned and funded approach to R&D / innovation in support of industry productivity and maintaining natural biodiversity.

Federal Initiatives

The federal government has:

- Used fisheries by-catch as a source of aquaculture feed ingredient
- Regional research facilities to do R&D work on developing species, invasive species, and climate change.

Industry Initiatives

The industry has:

- Determined which species of aquaculture best fit the growth requirements to meet consumer price demands, food value / health, environmental aspects, federal / provincial policy and regulations.
- Funded and supported R&D.
- A lead role in determining R&D priorities and supports, both through in-kind and cash, these initiatives.
- Developed more environmentally friendly growing facilities on land based, sea ranching, and coastal areas.
- Developed new technology for hatchery capacities.

Other Initiatives

Other groups have:

- Science has been completed and applied to maintain biological diversity.
- Service sector to aquaculture re transportation, marketing, packaging, etc., will keep pace with new technology to meet the increased world demand.
- Science-based knowledge to address issues, and adequate resources for research.

4. **ENVIRONMENTAL SUSTAINABILITY** – Initiatives aimed at ensuring that aquaculture is environmentally sustainable.

Federal Initiatives

The federal government has:

- Moved marine finfish aquaculture from coastal waters into land-based production systems
- DFO as lead agency, and agencies such as Health Canada and Industry Canada have created a smooth integration of regulations affecting water quality so that industry provides the highest quality end product.
- DFO developed a collaborative framework between industry players and stakeholders utilizing a sound environmental database in which the industry is continuing to grow.
- Financially and through direct research, assisted with the development of technologies that utilize aquaculture waste streams
- In conjunction with the provinces, clearly determined what department is responsible to ensure that upland activities (i.e. agriculture, development, etc.) don't have a negative impact on water quality.
- Collected baseline data for areas being developed and made rational decisions based on the processing of that data.

Provincial Initiatives

The provincial government has:

- Protected quality of water resources.
- Moved marine finfish aquaculture from coastal waters into land-based production systems
- Provincial agencies have provided regulatory standards for water quality for aquaculture operations in partnership with industry.
- In conjunction with the federal government, clearly determined what department is responsible to ensure that upland activities (i.e. agriculture, development, etc.) don't have a negative impact on water quality.

Industry Initiatives

The industry has:

- Moved marine finfish aquaculture from coastal waters into land-based production systems.
- Land-based facilities evolved to become large-scale commercial enterprises in full control of production environment with zero discharge.
- Developed standards and technology to address water quality and insure 100% clean water systems.
- Developed viable economic activities based on utilizing aquaculture waste streams.
- Recognized and responded to its corporate accountability to responsibilities.
- Developed and adhered to Codes of Practice (environment, safety, etc.).

5. INVESTMENT – Enhanced access to investment and working capital and reduced financial risks.

Federal Initiatives

The federal government has:

- Under the leadership of DFO, all barriers to development have been removed bringing all levels of government in harmonization and in partnership with industry and the investment community.
- Forced FCC to actively participate in development.
- Allowed any bank that wanted to do business in Canada, until Canadian banks signed on.
- Supported development by providing working capital.

Provincial Initiatives

The provincial government has:

- Provided loan guarantees as a standard.
- A net income stabilization program for aquaculture products.

Industry Initiatives

The industry has:

- Lobbied the federal government for working capital to support development.

6. POLICY / REGULATIONS – An appropriate and equitable policy and regulatory framework for industry and other stakeholders and environmental sustainability developed and implemented in an open and transparent process; delineation of developmental and regulatory functions; clarification of public and private rights; delineation of federal / provincial roles.

Federal Initiatives

The federal government has:

- (DFO) Drafted policies only after consultations with industry.
- Made transparent, open and public the process for review / assessment of license / lease.
- Uphold principle of marine waters as a common property resource.
- Separated development from enforcement to the appropriate agencies / departments.
- Issued export permits for aquaculture products.
- Inter-provincial standardization of codes of practice and quality control standards.
- Reasonable timelines and costs associated with site allocations (leasing) that ensure the access of new entrants into the industry.
- A site application process that is predictable, efficient, transparent and cost-effective with a template environmental assessment process.
- DFO has realized that the office of the Commissioner for Aquaculture Development must be larger than that of DFO itself.
- Ensured that new people and ideas can be tried by having appropriate funding.
- Finally defined the word "aquaculture" in legislation.
- DFO has recognized aquaculture as a distinct entity from conventional fishery.
- Done more funding, organizing, and distribution.
- Provided access to good and objective science.

- DFO has realized that aquaculture is not an affirmative action plan for displaced conventional fishermen.
- *A distinct recognition of aqua***culture** as agri**culture** or fisheries.
- Ensured that aquaculture development does not occur at the expense of the wild fishery, rather maintain and / or enhance it.
- Initiated a coastal zone management plan that recognized First Nation treaty rights, commercial fisheries, navigation issues, aquaculture needs and recreational uses.
- Harmonized (within departments and with provinces) the duration of lease tenure, NWP permits, licenses / permits, etc., to allow longevity and financial stability. 20 years renewable.
- Clearly defined what department is responsible to protect the property rights of leaseholders re issues of enforcement (e.g. theft, vandalism, etc.).
- Federal funding programs recognize the variance in fiscal needs that are associated with species time to market, scale of operation, location of operation.

Provincial Initiatives

The provincial government has:

- Drafted policies only after consultations with industry.
- Done more than just license aquaculture sites by also increasing extension services.
- Separated development from enforcement to the appropriate agencies / departments.
- Enforced codes of practice and quality control standards developed by industry.
- Shown a continued involvement and commitment to the development of an aquaculture industry.
- Made transparent, open and public the process to receive a license / lease.
- An aquaculture department with the budget and human resources required to provide extension services.

Industry Initiatives

The industry has:

- Developed codes of practice and quality control standards that are provincially enforced.
- Established codes of practice based on sound aquaculture practices and learned from other sectors.
- With visible support from the federal, provincial and environmental groups, increased awareness and acceptance of aquaculture and farmed fish, shellfish and aquatic products.

Other Initiatives

Other groups have:

- NGOs have access to public resources to make meaningful input to processes.

7. **INDUSTRY ASSOCIATIONS** – Effective and financially stable industry associations with full representation of the industry.

Federal Initiatives

The federal government has:

- Provided funding for industry associations.

Provincial Initiatives

The provincial government has:

- Provided funding for industry associations.

Industry Initiatives

The industry has:

- All companies are paying levy to fund industry associations.
- Strong well supported associations to represent their interests.

Other Initiatives

Other groups have:

- Strong associations moving the industry ahead, meeting with the federal and provincial government and promoting the industry.

8. TRAINING & EDUCATION / COMMUNICATIONS – *Initiatives aimed at enhancing the skill level of aquaculture, support industry, public sector workers and infrastructure for aquaculture, particularly in the rural coastal areas; effective federal, provincial and industry funding; communication programs for enhanced public awareness.*

Federal Initiatives
The federal government has:

- HRDC funded support for training / upgrading of existing managers / staff.

Provincial Initiatives
The provincial government has:

- Developed, in conjunction with other provinces, a harmonized aquaculture education system inclusive of all ages (i.e. grade school, aqua-science high school courses, community college, etc.), allowing for regional variations.
- Recognized the aquaculture industry as being a priority for providing money for educational training so that the industry now has a uniformly qualified, world class work force.

Industry initiatives
The industry has:

- Mastered the attraction of skilled labor to rural and coastal communities to meet sustainable development at all levels: scientific, technical, processing, management.
- Attracted human resources to the sector by providing good jobs.

Other Initiatives
Other groups have:

- Educational institutions have created leading-edge aquaculture courses and promoted public awareness of the industry and now provide a continuous stream of students to a futuristic industry.

9. PRODUCTIVITY & FISH HEALTH – Initiatives aimed at increasing aquaculture productivity and fish health management.

Federal Initiatives
The federal government has:

- Emergency funding in place for new crises.
- Provided compensation package to those who adopted fish health policy and require destruction of stocks.
- Scientifically supported GMOs.
- DFO approved a meal and oil fishery of herring for direct use in fish feed.
- Supported a major initiative to develop / research alternatives for fish feeds.

Industry Initiatives
The industry has:

- Each sector adopted a universal mandatory fish health
- Atlantic salmon industry has adopted GMOs technology to gain production edge over the rest of the world.
- Feed companies developed with federal support alternatives for fish meal and fish oil.
- The aquaculture producers had access to a constant supply of a variety of strains of species for commercial production.
- Land-based facilities were able to control all aspects of production to be able to meet market demands consistently throughout the year.

Other Initiatives

Other groups have:

- GMO biotechnology
- Outside biotechnology will be creating a demand for traditional raw materials used for current fish proteins.
- Environmental groups accepted GMOs as consumer environmentally-safe practices.

10. TRADE – Security of access to international markets; coordinated system for market and trade data.

Federal Initiatives

The federal government has:

- Led the development of a unified and shared database (technology, statistics, regulations, investment incentives, market data, etc.) for federal and provincial agencies and industry.
- DFO and DFAIT have developed policies between producing and consuming nations to eliminate trade barriers to market development for buyers and suppliers
- Put in place international agreements to ensure efficient trade with our key markets (e.g. US, EU, Asia, etc.). Concerns with new BioTerrorism Act on perishable products.

11. COMMUNITY INTERACTIONS – Planned, balanced and inclusive community approach to rural economic and social development.

Provincial Initiatives

The provincial government has:

- Aquaculture developed is par of an overall rural development plan.
- Provided social equity through development strategies to have growth take place in appropriate areas and by a balanced plan.

Industry Initiatives

The industry has:

- More participants
- Demonstrated a commitment to the community through aquaculture awareness tours, donation of product, participation in community associations and events, best management practices, support of on-going work re stream enhancement / water quality.

Other Initiatives

Other groups have:

- Community-based integrated (multi-stakeholders) management approach.
- Communities have recognized aquaculture as a sustainable resource-based industry by inviting industry participation on watershed groups, town councils, etc.

ANNEXE II.

ATELIERS RÉGIONAUX DES INTERVENANTS EN AQUACULTURE
PERSPECTIVES DES DÉLÉGUÉS GOUVERNEMENTAUX
Maritimes, 28 et 29 août 2002

Les commentaires qui suivent représentent uniquement les commentaires individuels exprimés par les participants lors de l'atelier. Il ne reflète d'aucune façon un consensus ou une ententre entre les participants.

ÉLEMENTS ET INITIATIVES (Transcription du contenu des autocollants)

1. R&D – Planned, coordinated and cooperative approach to aquaculture R&D in support of present and future competitiveness, productivity and environmental sustainability.

Federal Initiatives
The federal government has:

- Made available funds and human resources for the New Species Development Program. Continued support for these programs.
- R&D initiated for value added products to make us competitive.
- Made key steps to coordinate R&D in Canada so industry benefit is maximized.
- Actively supported partnerships.
- Maintained an online repertory on R&D projects being carried out across the nation.
- Science networks of R&D based on ecosystem approach to examine integrated aspects of all resources in the aquatic environment species. Adequately resourced.
- Collected and provided data that supports site selection and project management, e.g. climate / weather, wildlife and fish, environmental quality.
- Long-term research into environmental effects / cumulative effects to address requirements under CEAA.
- Fully coordinated R&D program: from pilot to fully commercial that includes basic and applied R&D, investment, technology transfer, etc.
- Conducted research to determine any effects of aquaculture on commercial fishery species of interest and possible subsequent economic impact on those commercial fisheries. Supported biological Station in St. Andrews: funds, human resources. DFO in all provinces.

Provincial Initiatives
The provincial government has:

- Invested in enhancement of wild shellfish stocks.
- Promoted research / investigation into new and emerging technology (off shore technology) in order to move the industry forward and allow continued growth.
- Participated in R&D and technology transfer for optimal utilization of aquaculture sites.
- Des efforts particuliers ($, personnel) ont été mis à jour pour promouvoir l'elevage d'espèces sous utilisées (mollusques, etc.). (We have put specific effort ($ and personnel) to develop underutilized species (molluscs, etc.).
- Conducted research on technology transfer.
- Developed / adapted funding programs to suite the industry needs: research, development, commercial stage.
- Ongoing review of available technology and a program to promote importing technology.

Industry Initiatives
The industry has:

- Industry in each province had their production strategies spelled out and available to the public (accepted by) (Set short-term / long-term goals / action plan).
- 1. The associations set up a clearly defined R&D document (long and short-term needs). 2. This document was disseminated to groups conducting aquaculture research and providing the funding (government, university, and institutes). 3. The document was used as a

guideline, and provided the framework or how R&D funds were allocated. 4. Government agencies (institutes, provincial, federal) took the financial lead (and scientific lead) on research with long-term deliverables (with environmental impact, new species development). A technology transfer process is in place to transfer this information to the industry when it reaches pre-commercial stage. 5. Industry takes the lead on the short-term research.

- Allocated resources for research projects that would be used to back up specific requests for change in government policy.
- Worked with large multinational private companies to attract R&D people and projects into local area.
- Recognized need to maximize production from existing surface area being utilized by industry.
- A levy on its production to establish an R&D fund and council controlled by industry with the participation of the federal and provincial governments.
- Worked with provincial regulators to develop environmentally sustainable methods and / or products to collectively dispose of waste blood and meal and other waste.
- Recognized that traditional species economics require diversification of aquaculture sector.
- Worked with provincial and federal authorities to fund new species development and trials to incorporate new technologies.
- Established an R&D sector / fund to evaluate new technology.
- Large aquaculture companies have staff expertise to conduct R&D and interact with scientists in government.

Other Initiatives

Other groups have:

- Adopted science-based decisions pertaining to attitudes toward aquaculture by cooperating with the aquaculture industry on environmental impacts of aquaculture in developing research programs.
- Universities assisted in developing programs and research to provide personnel and knowledge to the industry.

2. EDUCATION & COMMUNICATIONS – Coordinated partnership approach to information management; enhanced public awareness re aquaculture; technology training for industry.

Federal Initiatives

The federal government has:

- Created a Federal Council Coordination Committee complete with one-stop-shopping for information, interpretation and communication of all aspects of aquaculture.
- Created an office to deal with media and public relations, which is responsible for information addressing topics of public concern and commenting on / refuting good or bad press / untrue accusations.
- Results from research are fully interpreted and communicated to the public in a pro-active manner (public communication flow).
- The role of the federal and provincial governments has become complementary in order to ensure effective communications and a solid framework. How: developed the strategy, decided to implement it at all levels, had a commissioner or ombudsman or deputy minister who set up a team from each department involved with aquaculture, who ensures that policies are communicated and implemented. Then reported.
- Collected and disseminated statistics that allowed true costs and benefits of aquaculture to be recognized and thereby facilitated identification of growth strategies with greatest potential for success.
- Collected statistics that helped making clear the distinction between value of wild stocks and aquaculture.
- DFO has developed inter-federal integrated approach to support and deal with issues related to aquaculture.
- DFO has a person responsible for media relations who addresses any misleading or negative press on the topic of aquaculture.

- Fed / provincial et industrie ont developpé une stratégie commune visant à etablir les objectivs (production / march.). (The federal / provincial governments and industry developed a common strategy for the establishment of objectives (production / market).
- Improved communication of information to public with regards to programs that are in place to ensure a safe product.

Provincial Initiatives
The provincial government has:

- Created a provincial council coordination office complete with one-stop-shopping for information, interpretation and communication of all aspects of aquaculture.
- Developed a statistic gathering system or process.
- Coordinated and financially supported training workshop through DAFA and community college.
- Participated in maintaining regional cooperation among industry / government / university to further industry development.
- Provinces have integrated aquaculture into schools so that our next generation is well educated.
- Developed high schools programs in cooperation with industry to provide a comprehensive program with respect to sustainable aquaculture development and practices.
- Provided more information to the public to break the barriers with regard to making aquaculture attractive as a business opportunity.

Industry Initiatives
The industry has:

- Focused training programs on higher end jobs as jobs became more technical (which resulted from more mechanization of production techniques driven by efficiency margins).
- Developed an education program in cooperation with the provincial government that has been incorporated into the school system based on sustainable aquaculture and the facts about aquaculture.
- Publicized the results from environmental monitoring.
- Recognized rights and interests of other stakeholders (other water users).

Other Initiatives
Other groups have:

- Utilized knowledge and expertise to benefit the industry. Partnership at ground levels.

3. MARKETING – Initiatives aimed to enhance consumer and investor confidence; industry and government support.

Federal Initiatives
The federal government has:

- DFAIT has taken a proactive approach with the aquaculture sector to protect our exporters from trade claims by other countries.
- Encouraged the development of a joint marketing (generic) program between Maine and New Brunswick in order to guarantee an established market.
- Agriculture and Agri-Food Canada, who now has mandate in seafood marketing, has money to finance programs and has developed mechanisms to seek input of the fisheries sector in seafood marketing.
- Promoted aquaculture business opportunities (building on OCAD's research) to investors (small, medium, large businesses). Lead: Industry Canada (ACOA)?

Provincial Initiatives
The provincial government has:

- Supported trade missions and identification of opportunities in marketing and technology transfer.

Industry Initiatives

The industry has:

- Standard industry identification of product sold that meets health and environmental guidelines.
- Processors of aquaculture product in Canada work cooperatively to maintain good margins on their products.
- Industry associations developed marketing strategies focusing on the environmental and economic benefits of aquaculture in comparison to other industries.
- Has adopted a quality standard of food quality that was recognized around the world.

4. ENVIRONMENTAL SUSTAINABILITY – Involvement of all stakeholders in the elaboration of codes / standards including proper monitoring and enforcement; established an ICZM plan.

Federal Initiatives

The federal government has:

- Contributed to / endorsed and audited industry-developed code of practice related to environmental / health best practices through federal decision-making processes (e.g. EA). Based on audit, penalties could take form of fines, withdrawal of permits, insurance coverage.
- Accepted standards / definition of "deleterious substances" under Section 36 of the Fisheries Act in relation to aquaculture activities.
- Defined environmental sustainability as it will be applied to aquaculture development.
- Integrated management of coastal zone, DFO lead to protect fish habitat. Aquaculture sector at table.
- Placed resources to facilitate aquaculture site allocation. Delays are now of less than 12 months.
- Recognized, under CEA, accepted codes of practice in relation to "fish habitat".
- "Certified" the codes of conduct for use in the CEAA process.
- Implemented ICZM by ecosystems – watersheds that integrate upland users with coastal aquaculture users.
- Balanced the risks to the community (use of therapeutants, etc.) against risks to the farm. I.e. one cottage owner has right to say they don't want one farm in the bay) (Coastal zone management document).
- Accepted, endorsed, communicated, and enforced the federal environmental standards code of practice.
- Des règlements spécifiques à l'aquaculture ont été developpés: zones contaminées, collecte de naissain, taille de récolte / saison, etc. (regulations specific to aquaculture have been developed: contaminated areas, seed collection, harvesting size, etc.

Provincial Initiatives

The provincial government has:

- Bought into ICZM
- Adopted a community approach for the management / development of aquaculture.
- Defined the environmental objectives to be achieved for each region, and implemented a development strategy / policy to ensure those objectives were met.
- Implemented a fully ICZM that includes upland users with aquatic users.
- A fully functional and resourced enforcement arm of regulatory agencies for investigations and follow-ups.

Industry Initiatives

The industry has:

- An environmental code of practice that is enforced and open to the public.
- Implemented fully functional environmental monitoring programs that were audited by government agencies and made available to the public.
- Considered effect on fish habitat in codes of practice to address CEA.
- Created codes of conduct (practice).

- Codes of practice that defined "physical" practices / structures to address concerns by public, i.e. the view from the shore.

Other Initiatives

Other groups have:

- Stakeholders' roles and responsibilities are clearly defined for active participation on ICZM committees (legitimate stakeholders).
- NGOs specifically defined the environmental features that must be protected.
- Other stakeholders have worked on "long-term planning" with industry / government and local residents to come up with an "acceptable" long-term use of the waterway, respecting various stakeholders needs, and the future need of the "public good".
- Active / legitimate users of coastal zone as equal partners in ICZM.
- Communities are partners in the development of aquaculture.
- Competitive often means bigger; environmental sustainability often does not support bigger. Even if environmental sustainability supports bigger, maybe society does not want big (or faster, or genetically modified). International watchdog agency monitoring competitiveness (and the things companies do to be competitive) vs. environmental standards and vs. social acceptance / impact / development.

5. REGULATION / POLICY / PLANNING – Harmonizing and coordinating regulations to facilitate industry growth especially for shellfish industry; separation of fisheries regulations and aquaculture regulations.

Federal Initiatives

The federal government has:

- Created an aquaculture coordination committee across federal departments for investment, R&D, and funding programs (regional, zonal, national).
- Implemented an Aquaculture Act to legislate aquaculture separate from fisheries.
- Introduced mirror legislation (federal and provincial) that governs aquaculture industry using Canada-NS and Canada-NB Accord Acts for offshore oil and gas as model. Created a joint body to implement, such as Offshore Petroleum Boards.
- Established an ICZM regime between the federal government and the provincial government including the participation of other users of ocean resources.
- Established Boards for specific zones and issued recommendations to the Minister of Fisheries for 5-10 year periods.
- Supported or developed labeling program that allows operators to demonstrate compliance with best practices as a "competitive" edge.
- Invested in shellfish enhancement with the provinces and industry with long-term programming.
- Not constrained shellfish producers (particularly oysters) by regulations designed to conserve and protect wild stocks.
- NWP approval is longer-term than 5 years, more in line with provincial approvals of 20 years.
- An enabling regulatory framework in relation to aquaculture.
- Amended the Fisheries Act to recognize the continuum from fisheries – enhancement – aquaculture with specific management / regulations for cross-over activities.
- Enabled offshore aquaculture development with new legislation for all aspects -- harmonized with provincial / territorial legislation. Includes CEAA and species at risk cross-reference.
- Resolved jurisdictional issues between the federal and provincial government re territory (seabed).
- DFO has developed a fully integrated multi-disciplinary approach to aquaculture. DFO has created a multi-disciplinary team in the Regions to focus only on aquaculture.

Provincial Initiatives

The provincial government has:

- Developed policies that allow domestic growers to remain competitive with large multinationals.

- Monitored industry's code of practice.
- Monitored fish health and environment. There is a biosecurity process. Audited / monitored site management.
- Conferred property rights with leases, to assist in financing.
- Monitored the socio-economic aspects of aquaculture and incorporated them into management policy on a regular basis.

Industry Initiatives
The industry has:
- Industry's code of practice initiated zoning requirements for 2 year-old fish being carried into summer for large fish summer harvest in conjunction with fall placement of smolt program.
- Adopted code of practice for growing, harvesting and transporting product.
- Developed a policy for fish transport / wharf usage, to overcome fish health and environmental concerns.
- Amended regulation to streamline and expedite process.
- A clear set of aquaculture regulations independent of the fisheries regulations.

6. ANIMAL HEALTH – Functional National Aquatic Animal Health Program (NAAHP)

Federal Initiatives
The federal government has:
- Fully implemented a National Aquatic Animal Health Program (NAAHP) including compensation program and R&D component.
- Functioning NAAHP
- Funded a NAAHP with buy in by the provinces and industry. The NAAHP results in our products being traded world-wide
- Developed a comprehensive NAAHP to protect international trade of aquaculture products.
- Implemented comprehensive aquatic health program.
- Developed a comprehensive NAAHP.

Industry Initiatives
The industry has:
- Developed and adhered to codes of practice that pertain to good health practices.

7. FOOD SAFETY – Industry HACCP program; depuration facilities; managing biotoxin species by species.

Federal Initiatives
The federal government has:
- Managed marine biotoxin closures on a species by species basis.

Industry Initiatives
The industry has:
- Adopted processing and labeling standards, CFIA HACCP guidelines.
- Developed commercial viable marine biotoxin depuration systems for shellfish.
- Implemented on-farm HACCP based food safety programs.

8. GOVERNMENT STRUCTURE – Harmonized approach including delineation of federal / provincial roles; structured and fully resourced team-based management with performance evaluation; delineation of developmental and regulatory roles; re-define DFO's name to reflect proper visibility to aquaculture.

Federal Initiatives
The federal government has:
- Dedicated $ / resources devoted specifically toward aquaculture integrated program: managers, CSP, Scientists, Habitat, Researchers, etc.

- Pêches et oceans s'appelle maintenant "ressources halieutiques" et dispose d'équipes multidisciplinaires (Fisheries and Oceans is now called "aquatic resources" and it has multidisciplinary working teams).
- 15 years from now, same team sitting at the table, informed, consistent part of process, dedicated to task, committed to task, their employer makes the time and financial resources available to that team member to do the job, autonomy (must be empowered to make decisions).
- DFO has changed its name to "Department of Marine Management". There are four branches: aquaculture, fisheries, environment, and coastal zone management. Its approach reflects multiple sector and disciplines.
- Clarified DFO's role. Many think they should lead, but have conflicting mandates (enforcement vs. development).
- Clearly separated the regulatory responsibility of government from their development role.
- DFO, the province and the industry have an harmonized approach to monitor programs on various strategies.
- Clarified responsibilities for aquaculture in terms of food inspection.

Provincial Initiatives

The provincial government has:

- 15 years from now, same team sitting at the table, informed, consistent part of process, dedicated to task, committed to task, their employer makes the time and financial resources available to that team member to do the job, autonomy (must be empowered to make decisions).
- Harmonized federal and provincial regulation / process light on sharing of information.
- Harmonized site allocation process to reduce red tape and delay.
- Along with the federal government, developed policies / regulations favoring species diversification: sites, health, species.
- Clearly separated the regulatory responsibility of government from their development role.
- Strong MOUs with DFO for program delivery.
- Les principaux minsteries fed. et prov. Ont etablis des voies de communication fonctionnelles. (The main Ministries / Departments of the federal and provincial government have established functional means of communication).

9. INDUSTRY DEVELOPMENT PROGRAMS – Support for First Nations involvement in aquaculture; enhanced infrastructure; safety net programs; financial support programs; development programs targeted toward increasing technology, infrastructure and investment in aquaculture.

Federal Initiatives

The federal government has:

- Improved the public infrastructure necessary to support the aquaculture and traditional industries: wharves, waste water treatment facilities, waste disposal. Support small craft harbors(study and $ to implement).
- Provided key incentives for Canadian owner firms to invest in Canadian aquaculture. Incentives that are not available to farms outside Canada.
- Provided key leadership to safety net programs to support aquaculture: income stabilization, crop insurance.
- Provided funding support to universities / provinces that support aquaculture development, e.g. research chairs scholarships.
- Implemented "crop" insurance program (like agriculture) that supports "high risk" ventures related to advancing diversification species and multiple species on same site. Crop insurance program supports profit sharing used for R&D.
- Provided regulators education, research and funding programs that support diversification of aquaculture industry.
- Program $ to apply research to development. Assisted pilot scale development and then commercialization.

- Created conditions for investment by Aboriginal communities in aquaculture initially via targeted $ assistance, then (concurrently?) via policy / legislation changes that facilitate Aboriginal borrowing, while balancing investment in non-Aboriginal communities.
- Continued to provide financial assistance to smaller companies so that there is a healthy level of competition with the larger firms. Such assistance would focus on environmental assessments, new technologies, marketing, and skills development.
- Provided tax incentives for commercial fishermen to invest in aquaculture.
- Minimized the cost of environmental approvals or subsidies so small / medium sized Canadian companies can exist. This would reduce the risk of $ leaving Canada by multinational companies.

Provincial Initiatives

The provincial government has:

- Research: created proper environment (infrastructure, people, $) to increase innovation in sector as well as value added.
- Participate in a crop insurance program adapted to industry needs: R&D – Profit, Pre-commercial, and Commercial.
- Finalized a safety net / crop insurance program to stabilize the industry and increase investor's confidence.
- Bought in to fund a safety net program for the aquaculture sector similar to agriculture.
- Infrastructure: waste treatment facilities.

Industry Initiatives

The industry has:

- A "crop insurance" program (jointly with the federal and provincial government) to provide investment security.
- Industry associations have developed funding mechanisms.
- Industry has achieved "true" single year class farming of salmon finfish with no hold-overs.

Other Initiatives

Other groups have:

- Some Aboriginal communities have invested in aquaculture opportunities, using revenues generated from other economic development enterprises. Federal and provincial governments encouraged economic development investment by Aboriginal communities.

ANNEX III. LISTE DES PARTCIPANTS – MARITIMES

Industrie et autres intervenants (28 août)

NOM	AFFILIATION
Jamey Smith	Aquaculture Association of Nova Scotia
Stephen Fortune	PEI Aquaculture Industry Alliance
Johnny Flynn	PEI Aquaculture Industry Alliance
Crystal McDonald	PEI Aquaculture Industry Alliance
Gary Rogers	PEI Aquaculture Industry Alliance
Sandy Siegel	Maritimes Fishermen Union
Florence Albert	Assoc. des Conchyliculteurs Professionnels du N.-B
Julien Albert	Produits du Golfe St. Laurent Ltée
Inka Milewski	Conservation Council of New Brunswick
Bob Cochrane	Fundy Weir Fishermen Association Inc.
Kenneth Brown	Aquaculture Association of New Brunswick
Bob Sweeney	Aquaculture Association of New Brunswick
Roger Nason	New Brunswick Aboriginal Peoples Council
Don Wolverton	New Brunswick Trout Farmers Association
David Roberts	Millbrook First Nation
Brian Blanchard	Aquaculture Association of Nova Scotia
Lee H. Corey	Corey Feed Mills Ltd.
Doug Bertram	Aquaculture Association of Nova Scotia
Glen Brown	Aquaculture Association of Nova Scotia
Sirje Weldon	Aquaculture Association of Nova Scotia
Donnie Strongman	PEI Fishermen's Association
Martin Mallet	Moncton University
Charles Dennis	Eskasoni First Nation - Fish & Wildlife Commission
Andrew Boghen	Moncton University

Représentants des gouvernements (29 août)

NAME	AFFILIATION
Darrell Welles	Government of NB - Environment and Local Government
Chris Mills	Government of PEI -
Hugh Madill	Government of NB - Agriculture, Fisheries and Aquaculture
Richard Gallant	Government of PEI - Fisheries, Aquaculture and Environment
Melinda Donovan	Department of Fisheries and Oceans
Barry Jeffrey	Environment Canada
Terry Jones	Farm Credit Canada
John White	Canadian Food Inspection Agency
Sarah Hechavarria	Indian and Northern Affairs Canada
Dale Small	Department of Fisheries and Oceans
Tom Sephton	Department of Fisheries and Oceans
Alison McGarry	Government of NB - Agriculture, Fisheries and Aquaculture
Cindy Webster	Department of Fisheries and Oceans
Maurice Mallet	Department of Fisheries and Oceans
Maurice Levesque	Department of Fisheries and Oceans
Susan Vatcher	National Research Council
Christian Noris	Government of NB - Agriculture, Fisheries and Aquaculture
Mary Stephenson	Department of Fisheries and Oceans
Robert Rioux	Government of NB - Agriculture, Fisheries and Aquaculture
Lori Robinson	Atlantic Canada Opportunities Agency
Wade AuCoin	Atlantic Canada Opportunities Agency